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TECHNOLOGY LEADERSHIP QUALITIES IN SECONDARY SCHOOL
PRINCIPALS IN NEBRASKA WHO SUPPORT STUDENT-LED
SOCIAL MEDIA TEAMS

by

Jill M. Johnson

A DISSERTATION

Presented to the Faculty of
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In Partial Fulfillment of Requirements
For the Degree of Doctor of Education

Major: Educational Administration

Under the Supervision of Professor Jiangang Xia

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May, 2021

TECHNOLOGY LEADERSHIP QUALITIES IN SECONDARY SCHOOL
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SOCIAL MEDIA TEAMS

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University of Nebraska, 2021

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This study addresses secondary school principals in Nebraska who are dealing with the negative ramifications of their students' social media interactions. To combat the problem, this study sought to identify the technology leadership qualities possessed by secondary school principals in Nebraska who support student-led social media teams. A purposeful sampling of six secondary school principals in Nebraska, who have all been practicing principals for at least three years, engaged in individual semi-structured interviews via Zoom in January 2021. The primary research question was: *What technology leadership qualities are possessed by secondary school principals in Nebraska who support student-led social media teams?* The five sub-questions, based on the International Society for Technology in Education (ISTE) Standards for Education Leaders, defined the conceptual framework for the study: equity and citizenship advocate, visionary planner, empowering leader, systems designer, and connected learner (ISTE, 2018).

The findings of this qualitative phenomenological study revealed ten themes based on technology leadership experiences not typically evident in mainstream

educational leadership texts. Recommendations for educational leaders will be especially useful to those charged with making leadership decisions within their districts as well as support systems such as professional development agencies and principal preparation programs. This study could also support innovative approaches to instructional and social media problems faced by administrators in 21st century schools as well as stronger, more transparent connections among stakeholder groups. Results may also bring to light the use of student-led social media teams in Nebraska as a powerful tool in the way students connect, learn, and communicate in a global society.

DEDICATION

This work is dedicated to my mother, Martha Joan (Fritz) Owens, who instilled in me the joy of reading and learning. She also introduced me to the peace which passes all understanding in knowing my Lord and Savior, Jesus Christ, which serves as the foundation of all that I am. I also dedicate this work to my incredibly supportive husband, Brady, and our four amazing children, Jax, Elise, Ian, and Maryn, for supporting me in achieving my goals and keeping me humble throughout the process. Not only have they made sacrifices, but they have done so willingly and without complaint. I love each of you unconditionally.

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I would also like to thank the many colleagues I have had the privilege to serve with during my career as a teacher, professional development consultant, and administrator. A special thank you to Taylor Siebert, Ben Pankonin, and the Class Intercom Ambassadors who offered feedback, encouragement, and advice from the very beginning: you will never know how much energy I gleaned from sharing my progress with you and hearing your encouragement to continue the process.

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Chapter 1

Introduction

When I first started in administration, it was no surprise that my new school asked me to unify their social media brand. I came well-equipped with many years of experience working with educational technology. Using social media to inform the stakeholders of our district quickly became a part-time job on top of my already full-time job as an assistant principal. As I continued to serve, my tenure in this position also meant I was experiencing a multitude of dealings with negative social media issues with students ranging from bullying to threats of self-harm and sexual exploitation. These incidents saddened me as do all negative student issues; however, this did not mean eliminating the use of electronic devices at school or removing myself from the social media world. Instead, this meant exploring options to address this relatively nascent issue in the realm of technology leadership.

The objective of this qualitative phenomenological study was to identify the technology leadership qualities possessed by secondary school principals in Nebraska who support student-led social media teams. The experiences of these principals may provide educational leaders valuable insights into the types of leadership qualities necessary to lead secondary schools in the 21st century. Chapter 1 includes the background of the study, problem and purpose statements, research questions, significance of the study, an overview of public education in Nebraska, and definitions of key terms.

Background of the Problem

Social media platforms are prevalent, easily accessible, and here to stay. Social media platforms date back as far as 1969 (Banks, 2007), but the mainstream use of social media really escalated with the inception of Facebook in 2004, YouTube in 2005, and Twitter in 2006 (Boyd & Ellison, 2008). Social media platforms continued to change on a daily basis and have grown to include social networks, blogs, micro-blogs, wikis, social bookmarking websites, media sharing sites, and RSS feeds: common platforms include *YouTube, Wikipedia, LinkedIn, Reddit, Instagram, and Pinterest*. This easily accessible media may be defined as “the interaction among people in which they create, share or exchange information and ideas in virtual communities and networks (Ahlqvist et al., 2008, p. 13). We now communicate with one another anywhere, anytime, anyplace (Cox & McLeod, 2014). This continuously evolving phenomena is an excellent communication tool; however, social media is more than just finding friends on Facebook.

Social media do have some educational uses. Boyd (2008) stated that social media have a crucial function for educational purposes. These instructional upgrades included increased engagement as well as improved cooperative learning skills (Rosen, 2011; Bal & Bicen, 2017). Students learn better in hands-on environments (Faizi et al, 2013), and a majority of teens in the United States have access to at least one device that enables them to connect to the internet during at least some portion of the day. High school aged students are also highly engaged in accessing online content and navigating technological platforms providing the opportunity for enhanced collaborative learning situations (Walsh, 2011). Although social media technology provided a rich environment for

engagement and collaboration, this did not necessarily equate to positive learning conditions. Unfortunately, other aspects of social media were filtering into schools, and these interactions may have negatively impacted the educational life of students (Rithika & Salvaraj, 2013).

These negative online interactions--often times taking place outside of school hours--have led to an increase of students' social-emotional and disciplinary issues. School leaders are working to address these negative ramifications ranging from cyberbullying to digital distraction (Digital Citizenship Curriculum, 2020). Part of the challenge school leaders faced was that no set checklist exists for them to follow in order to proactively keep students safe on social media or respond effectively when situations escalate. Some principals chose to simply ignore the problem twofold by not participating in the use of social media personally and by not allowing the use of social media for their school; other school leaders combated the issue with disciplinary measures, which often include hours of investigation, dead ends, and police involvement; others address the issue utilizing restorative practices or preventative measures. No matter the approach, principals seemed to be on their own in addressing the problem.

Complicating the situation for secondary schools in Nebraska was the lack of quality curricula to address the issue in the same manner as most instructional issues. School districts continued to work on the development and implementation of digital citizenship programs; however, curricular resources were in scarce supply. Common Sense Media offers free, online K-12 curricular materials (Digital Citizenship Curriculum, 2020), but implementing these materials was a challenge due to an already

stressed schedule of state-mandated graduation requirements (Nebraska Department of Education, 2020). Secondary schools lacked the time and personnel in the school day for proper implementation of this type of curricula for students who were already deeply immersed in the social media world. Instead, secondary school digital citizenship safeguards tended to take on the reactive approach of cloud-based filtering programs, surveillance, and self-harm alert systems such as Go Guardian or Meraki, which are typically monitored by building principals (Herold, 2018).

Statement of the Problem

Students' negative social media interactions are leading to an increase of problematic student issues for secondary school principals, who have little guidance in how to address these problems. Principals, as like-it-or-not technology leaders, lack the technological background to combat these issues (Brown & Jacobsen, 2016). Herold (2018) stated, "More than half of U.S. school principals say they're extremely concerned about children's use of social media outside of school, but just 14 percent describe themselves as 'very prepared' to help students use social media responsibly" (p. 20). School leaders "cannot afford to ban social media or turn their back on this important communication tool" (Cox & McLeod, 2014, p. 22). As these problems continue to grow, principals need to increase their ability to prepare students for the future (Thannimalai & Raman, 2018). Therefore, identifying the technology leadership qualities possessed by secondary school principals in Nebraska who are proactively dealing with these challenges is important.

Previous research fell short in relation to principals' technology leadership experiences in supporting students to use social media productively as well as why school principals would use their leadership positions to adopt such programming. Although some research addressed how much and what type of social media principals used, no published studies existed in education journals on the use of student-led social media teams in schools. A pilot study conducted by the researcher in the Fall of 2019 revealed specific leadership qualities not evident in mainstream educational leadership texts including secondary school principals' modeling digital citizenship through personal social media use; leadership strategies available to enhance technology instruction; the importance of sharing the school's story and disseminating a positive narrative in order to build culture; and accentuating a positive school message while maintaining accountability for students.

Although the International Society for Technology in Education (ISTE) Standards for Education Leaders (2018) outlined qualities technology leaders should possess and provided a theoretical basis for this study, one is left wondering how these standards applied to the needs of secondary school principals, who were facing the increase of negative student social media use. Questions remained: How might principals use student-led social media teams to meet the standards set forth by ISTE and be more effective as equity and citizenship advocates, visionary planners, empowering leaders, systems designers, and connected learners? How might school leaders harness social media as a powerful tool in the way students connect, learn, and communicate in a global society?

Purpose of the Study

The purpose of this qualitative phenomenological study was to identify technology leadership qualities possessed by secondary school principals in Nebraska who support the use of student-led social media teams. The specific sample for this study consisted of six secondary school principals from six different public school districts in Nebraska who utilized the Class Intercom application to support student-led social media teams. The investigation included recorded, in-depth Zoom interviews, which provided insight into the experiences of secondary school principals as they employed their technology leadership skills.

Research Questions

One primary research question framed this qualitative study: *What technology leadership qualities are possessed by secondary school principals in Nebraska who support student-led social media teams?* Five sub-questions, which helped to define the properties of the primary research question, were created based on the ISTE Standards for Education Leaders (ISTE, 2018).

- Sub-Question 1. What technology leadership qualities do secondary school principals possess to be equity and citizenship advocates?
- Sub-Question 2. What technology leadership qualities do secondary school principals possess to be visionary planners?
- Sub-Question 3. What technology leadership qualities do secondary school principals possess to be empowering leaders?

Sub-Question 4. What technology leadership qualities do secondary school principals possess to be systems designers?

Sub-Question 5. What technology leadership qualities do secondary school principals possess to be connected learners?

Specific interview questions developed for each sub-question were based on the ISTE Standards for Education Leaders (ISTE, 2018). The sub-questions focused on closing the gap in the literature regarding the limited knowledge of student-led social media teams as a tool to support education leaders in combating the issue of inappropriate social media use by students. The sub-questions also focused the researcher's efforts to respond to the gaps in the literature about the inadequate information on student-led social media teams being used to drive equity and citizenship advocacy, visionary planning, leader empowerment, systems design, and learner connections more effectively. These interview questions sought data to identify technology leadership qualities possessed by secondary school principals in Nebraska who supported the use of student-led social media teams.

Delimitations

The study took a broad look at principals' experiences in schools with student-led social media teams in Nebraska. Nebraska schools are allowed more local control than schools in other states, which may limit the transferability of the findings. Also, only secondary school principals who were serving in buildings actively utilizing the Class Intercom social media management platform were included in the study. Although this platform is unique for educational settings, targeting only schools using this specific tool could limit transferability to schools using other platforms.

The study did not examine the perceptions of teachers nor students involved in the implementation or sustainability of student-led social media teams. Additionally, the study did not provide an analysis of stakeholders who “follow” or “like” their school’s social media sites. Other stakeholders could have different perspectives on principal leadership qualities in this area.

Assumptions

An assumption of this qualitative study was that secondary school principals who supported student-led social media teams had developed their technological leadership skills and had experienced challenges and successes through the process. As principals worked to develop their skills as technology leaders, they have faced many challenges (Richardson et al., 2012). Each of the secondary school principals interviewed met the participation criteria including experience in leading the implementation of student-led social media teams.

Another assumption was that each secondary school principal interviewed had experiences to share and that the participants understood the interview questions and answered them honestly. An additional assumption was that the researcher and the interviewees would develop a rapport and establish a positive working relationship. The researcher utilized a judgement-free attitude and exhibited patience so participants would be more likely to provide honest and detailed accounts of their experiences (Qu & Dumay, 2011).

Significance of the Study

This study may be significant because the experiences of secondary school principals who possess technology leadership qualities are highlighted in a way that may be used to combat the increasing negative social media issues impacting secondary school principals and their students. Findings garnered in this study may provide school district administrators, school board members, principal preparation programs, and other professional development entities with insights into the leadership qualities needed by secondary principals to lead them to become technology leaders in their districts, who are able to specifically and positively address the issue of social media use by their students. Practitioners such as principals and teachers may also have a better understanding as to what leadership qualities possessed by secondary principals enable them to support student-led social media teams. The findings of this study may be especially important as school leaders continue to learn and grow in their ability to use social media both personally and professionally to make more transparent connections between and among stakeholder groups, promote the quality of education happening in Nebraska, and market their school/district brand as competition for students and funding increases.

This study also brings to light the use of student-led social media teams in Nebraska compared to those across the United States, highlighting social media as a powerful tool in the way students connect, learn, and communicate in a global society. The findings of this study will also be significant for Nebraska policy makers and lawmakers including school superintendents, Board of Education members, and lawyers

in Nebraska law firms that support public schools as Nebraska touts some very unique and important viewpoints when it comes to education.

Public Education in Nebraska

Public education in the state of Nebraska is unique in three major ways that impacted this study. Nebraskans clearly value local control in making educational decisions; school law firms work closely with Nebraska public schools to educate students, staff, and administrators on best practices; and the Nebraska Loves Public Schools brand has set a standard for Nebraska public schools to invest in telling their stories.

Nebraska and Local Control

The Nebraska public education system prides itself on local control, which allows local superintendents and school board members to make decisions based on what is best for their constituents. Uerling and O'Reilly (1989) noted, "It is generally accepted that decisions about the education of children in a public school district should be made by those who are closest to the site" (p. 1). Although this sounded good in theory, in most states, major decisions about education are made by legislators on the state and national level. According to the Nebraska Department of Education website:

Nebraska has historically been a local control state with no mandated curriculum or textbooks. The standards are not meant to be a curriculum. Rather, districts are expected to align their local curriculum to the Nebraska Standards to add more specificity. Nebraska's draft standards are written using verbiage that describes the knowledge and skills students are expected to master at the various grade levels rather than using performance expectation language. Districts also have the choice to adopt their own standards only if they are more rigorous than the state standards.

Nebraska School Law Firms

The Nebraska model of school law firms provides Nebraska public school districts the aggregate benefit of lawyers who have seen the same issues across multiple schools in order to be efficient and effective for each individual district in their care. Nebraska school law firms, KSB Law and Perry Law, were interested in how school leaders utilize these types of social media management systems to safeguard their schools, their school leaders, and their students by archiving social media posts. KSB Law (2021) promoted the tag line on their website, “You work on what’s best for kids. We work for you.” Although some states are organized like Nebraska with a fairly concentrated group of lawyers who specifically focus on school law, Nebraska public schools continue to be a centerpiece in most communities that may not have local attorneys experienced in school law. In some other states, law practices specialize even more, such as firms that practice only special education law. In other states, school board associations employ many lawyers, and fewer private firms represent schools. Finally, in even other states, more fragmented arrangements are made with local attorneys doing much of the non-specialized work with contracts and personnel that also apply to other types of clients.

Nebraska Loves Public Schools

The *I Love Public Schools* initiative sponsored by Nebraska Loves Public Schools and funded by the Sherwood Foundation started in 2011 with one mission: “to change the persistent, negative narrative about public schools” (2021). This organization documents the stories of public schools across Nebraska to build awareness, empathy, and support

for public education. This organization helps people--Nebraskans and beyond--better understand what is happening in Nebraska classrooms, share the pride Nebraska has in its public schools, and ignites the *I Love Public Schools* conversation nationwide.

Definition of Key Terms

Key terms used in this study are defined to ensure consistency throughout the study.

Principal in this study referred to secondary school principals who served as leaders in an educational setting that included students in grades 9-12. The school administrator was the person in charge and had the ability to make key decisions for the entire school. The leader also was responsible for leading the school in curricular changes, financial changes, and professional development (Marzano, Waters, & McNulty, 2005).

Social media referred to a connection of web-based sites and applications that enable users to create and share content or to participate in social networking in order to share information about them and to create a partnership with other similar users (Boyd & Ellison, 2008). Social media platforms included social networks, blogs, micro-blogs, wikis, social bookmarking websites, media sharing sites, and RSS feeds.

A *student-led social media team* referred to a group of students who created content for their school social media platforms under the direction of school staff. For the purpose of this study, *student-led social media teams* were identified by those actively using the Class Intercom social media management platform to create, organize, and disseminate their school's social media messaging.

A *technology leader* was defined as the person in charge of overseeing all aspects of technology implementation and integration in a school (Brown & Jacobsen, 2016). For the purpose of this study, the *technology leader* was the principal of a secondary school actively using the Class Intercom social media management platform to create, organize, and disseminate their school's social media messaging.

Technology leadership qualities for the purpose of this study were outlined by the ISTE Standards for Education Leaders (2018): equity and citizenship advocates, visionary planners, empowering leaders, systems designers, and connected learners.

Summary

Chapter 1 presented the background of the problem, problem and purpose statements, research questions, significance of the study, an overview of public education in Nebraska, and definitions of key terms. The remainder of this study has been organized into four chapters, references, and appendices. Chapter 2 presents a review of the literature. Chapter 3 covers the methodology including population and sampling methods, instrumentation, data collection methods, and data analysis techniques. An analysis of the data and a discussion of the findings are presented in Chapter 4. Chapter 5 contains a summary of the study, conclusions, implications, recommendations for education stakeholders, and recommendations for further study. The study concludes with references and appendices.

Chapter 2

Literature Review

The purpose of this study was to identify technology leadership qualities possessed by secondary school principals in Nebraska who supported student-led social media teams. The topic of educational leadership has been researched extensively, and leadership qualities have been defined exhaustively in the literature: from Carlyle's "great man" theory (1907) to Collins' *Good to Great* (2001) to Marion and Gonzales' *Leadership in Education: Organizational Theory for the Practitioner* (2014). Conversely, the idea of educational leadership with the principal as the technology leader, specifically focusing on social media, was fairly new subject matter.

Chapter 2 contains a review of the literature related to the role of the secondary school principal as technology leader, specifically pertaining to the use of social media, in the roles of equity and citizenship advocate, visionary planner, empowering leader, systems designer, and connected learner (ISTE, 2018). These standards presented by the International Society for Technology in Education (ISTE) were used to develop the conceptual framework. Most of the peer-reviewed current literature had a published date within the last ten years. Literature beyond that scope provided a historical insight on related topics. Keywords and phrases used to search for relevant scholarly articles were *secondary school principals, educational leadership, technology leadership, educational impact of social media, student social media use, student-led social media team*, and a combination of all aforementioned keywords and phrases.

Technology Leadership

During the onset of the COVID-19 global pandemic in the United States in March of 2020, technology leadership skills--or lack thereof--in principals became glaringly evident. Krueger (2020) stated, "It's a career-defining moment for education leaders, who have had to spearhead the shift to online learning overnight while also managing their own personal and professional struggles in a time of crisis and uncertainty." Social media platforms enabled tech-savvy school leaders to push out information to stakeholders and stay connected to students, teachers, parents, guardians, and community members. This crisis highlighted the need for leaders to be forward thinking and knowledgeable about educational trends to accurately predict the needs and challenges of their district as well as the possibilities for growth and achievement. Although no one could have predicted the events in the Spring of 2020, a good leader must always be asking the question, "What's next?" (Kouzes & Posner, 2006, p. 105).

Even in normal times, school principals found themselves making decisions about a wide variety of topics. In recent years, the role of principal increased substantially (Burkhauser et al., 2013). Gone are the days when declarations such as "Show me a good school, and I'll show you a good principal" (Barth, 1990, p. 64) are uttered without evidence to back it up. Bolman and Deal (2017) stated that leaders "operate largely on the basis of intuition, drawing on first hand observation, hunches, and judgement derived from experience" (p. 299), but when it came to technological decision making, leaders did not have the luxury of relying on intuition.

Good principals worked intentionally to be the technology leaders in their buildings. Powers and Green (2016) warned, “Technology leadership by school principals is of critical importance for schools to provide 21st century learning experiences” (p. 140). Principals were charged with leading technological changes (Thannimalai & Raman, 2018); however, for many years the idea of technology leadership lacked definition (Anthony & Patravani, 2014).

ISTE Standards for Education Leaders

This lack of definition changed when the International Society for Technology in Education, a nonprofit organization that served educators interested in the use of technology in education, changed that with the creation of the ISTE Standards for Education Leaders (ISTE, 2018):

1. Equity and Citizenship Advocate
2. Visionary Planner
3. Empowering Leader
4. Systems Designer
5. Connected Learner

These standards for instructional technology leaders support the standards for students and educators provided by ISTE and offer guidance for learning in the digital age, which are focused on the qualities needed by leaders to support educators in making learning possible for students. The U.S. National Education Technology Plan declared, “Learning principles transcend specific technologies. However, when carefully designed and thoughtfully applied, technology has the potential to accelerate, amplify, and expand the

impact of powerful principles of learning” (*Reimagining the Role of Technology in Education: 2017 National Education Technology Plan Update*, 2019).

The principals’ role as technology leader is vital because educators need quality leadership in order to use technology appropriately and effectively to shift student learning. However, this transformation cannot happen overnight as principals face many unknown challenges as they develop their technology leadership skills (Kotok & Kryst, 2017). Yet, connecting influential frames and creating innovative responses to new circumstances are essential to leadership (Bolman & Deal, 2017); therefore, we needed to seek out the experiences of how secondary school principals consciously practiced the tenets of innovative leadership (Powers & Green, 2016, p. 141). The ISTE Standards for Educational Leaders provided the definition essential for this study.

Empirical Studies on Instructional Technology Leadership

Equity and Citizenship Advocate

Technology leaders ensure all students had teachers who used technology appropriately to meet their needs (ISTE, 2018). Principals supported teachers to integrate meaningful technologies into instruction (McLeod, 2015), and principals were responsible for providing teachers and students with the support to improve the learning including the proper equipment. Mizell (2009) noted, “For teachers and school and district leaders to be as effective as possible, they continually expand their knowledge and skills to implement the best educational practices” (para. 17); however, the research failed to indicate whether these best practices encompassed the ever-changing social media landscape that has become an integral part of the high school experience.

Today's students have grown up in a world of content creation based solely on "me-content" or content about themselves as individuals. Rosen (2011) suggested that teens with social media accounts show more narcissistic tendencies, which was portrayed on Instagram, SnapChat, and a variety of other Internet-based platforms. Tezci and Icen (2017) reported that teens primarily used social media "for commenting on others' profiles, reading blog posts, listening to music, making friendship requests, examining someone else's status and participating in various social, educational, etc. activities" (p. 100). Although today's teenagers were digital natives, their native use of consuming and creating content about themselves lacked educational quality. Research indicated, however, that technology leaders were trying to harness this high-interest medium to engage students in the classroom.

Technology leaders must support the integration of technology and make it a top priority; this included the use of social media: "School officials, like their corporate and government counterparts, are learning that social media tools are exceedingly more powerful than they realized," (Cox & McLeod, 2014, p. 6). Connolly (2011) states, "Many acknowledge its educational benefits of encouraging students to engage with one another and to express and share their creativity." Educational leaders should use technology tools to produce positive social change (ISTE, 2018), but research was not available that suggested education leaders do this on a regular basis. In other words, the research indicated the need in theory, but not in practice. Megele (2014) stated, "A deeper exploration of the relationship between technology and pedagogy is needed to truly harness the potential of social media technologies" (p. 418).

While this exploration continued, schools were working to give students the opportunity to move from consumers to creators (Bradley & Thouseny, 2011). Boyd and Ellison (2008) noted that the primary school use of social media had been limited to a sharing of materials between teacher and students even though learners today yearned to be “active creators of their own meanings” (Tezci & Icen, 2017, p. 100). Social media use may have positively impacted academic performance of students as long as the information acquired was used appropriately (Ahmed & Qazi, 2011). The factor not recognized in the research was how to ensure students were using the information appropriately. Mozee (2013) found that students may have benefitted from online social interactions, access to information sources, creativity among users, a sense of belonging, and increased technological skills; however, no use of student-led social media teams was mentioned. The literature supported the advantage of teachers taking students' preferences into consideration when implementing social media in the teaching process. If social media was infused into instructional practices, teachers may have guided students in using social media effectively and also in creating effective strategies against negative effects of online interactions (Tezci & Icen, 2017). This also meant that students must have equal access to these learning opportunities.

Technology leaders must also ensure that all students have access to devices and connectivity in order to participate (ISTE, 2018). Students have “the right to participate on an equal basis in order to achieve” (Sebba et al., 2009). Principals were “crucial in creating a school that values and continually strived to achieve an exceptional education for all students” (Quinn, 2002, p. 461). A major impact on schooling had been the

advancement of computer technologies (Delgado et al., 2015), and inequality may have restricted students, especially those living in rural communities, from accessing information and social mediums (Sebba et al., 2009). Although principals had much influence on students' social media access during school hours, Osborne (2011) noted that larger school districts may limit sites that are accessible to students leaving building-level administrators little to no control of students' social media access. The implementation of one-to-one device issuance helped to even the playing field; however, connectivity still limited students' ability to access technology outside of the school building.

Technology leaders model digital citizenship by using online tools and resources and engaging in online conversations that promote safe, ethical behavior (ISTE, 2018). Many studies focused on the push for teachers to utilize social media platforms in their classrooms to enhance education; however, the principal was the driving force behind teacher use and student success (Ross & Cozzens, 2016). Connolly (2011) believed students needed to be taught how to think purposefully about the use of social media in order to use it in a more contributory fashion, and this must be modeled by educational leaders. Megele (2014) stated, "Social media and new technologies have expanded our consciousness, redefined our relational identity and transformed our notion of knowledge and education as well as the meaning, significance and processes of learning" (p. 424). This cultivation of responsible behavior was a must for students.

Technology leaders must model digital citizenship and set expectations for appropriate online behavior (ISTE, 2018). Social media did have positive uses in education, and social media application in the classroom have proven to be beneficial for

increased engagement, feedback, and collaboration for students and teachers; unfortunately, negative issues continue to overshadow the positives. Teachers “can effectively guide them [the students] in using social media effectively and also in creating effective strategies against negative effects” (Tezci & Icen, 2017, p. 105). A major gap in the literature was the lack of research about technology leadership provided by building principals to support their teachers in engaging in innovative practices using social media.

Based on the current research, one may conclude that secondary principals’ practices may positively increase equity, inclusion, and digital citizenship practices for both staff and students; however, this research has not been extended to include the use of social media technologies within the school setting; therefore, we are left with little direction on how this student-led social media use might contribute to improve equity, inclusion, and digital citizenship practices.

Visionary Planner

Technology leaders work with stakeholders to build culture and develop an ongoing plan to improve learning with technology (ISTE, 2018). Working collaboratively to establish a cohesive vision was imperative for school success: “A school vision is a descriptive statement of what the school will be like at a specified time in the future” (Robbins & Alvy, 2004, p. 3). Although a relationship with stakeholders was not a specific solution to a problem, “a shared vision for the school community embraces the notion that schools cannot operate effectively without an important partnership with the larger community” (Robbins & Alvy, 2004, p. 5). Research indicated that social media

played a role in stakeholder communication, but failed to indicate any student-led social media use to achieve this goal. ISTE Standards (2018) noted that the leader must regularly evaluate the progress of the plan and measure impact in order to transform learning; conversely, current research indicated that public education systems were slow to implement social media due in part because principals failed to provide daily opportunities for students to engage in its use (*School Principals and Social Networking in Education*, 2010).

A technology leader must communicate effectively with stakeholders, listen to their input, and include them in the planning process (ISTE, 2018). “Communication is a two-way process” (Robbins & Alvy, 2004, p. 229), and school leaders must strive to continuously be communicating, not just sending out information in various modes, but also receiving communication from stakeholders. Leaders sought out communication by making themselves visible to all stakeholders and “listening to what others want” (Kouzes & Posner, 2006, p. 112), and social media platforms allowed for real-time interaction. Couros (2014) stated:

Only in an organization where voices are not only heard, but also valued, will you ever see significant improvements in school culture, and with the tools that we are provided in our world today, that pace of culture change can be significantly faster than it was without this same technology. (p. 31)

The research indicated that social media was utilized to connect with multiple stakeholder groups; however, the communication was one-way and led by administration.

Teenagers dominate the social media landscape worldwide (Rideout et al., 2010 and Kaplan & Haenlein, 2010); however, other stakeholders have become increasingly demanding in their need for information from schools in the form of social media. This

became especially evident in the Spring of 2020 when a global pandemic forced Nebraska schools to close their face-to-face learning facilities. Wu et al. (2020) stated, “Leadership should provide the most up-to-date information. . .anticipate questions and answer them in advance” (p. 822). Secondary schools that had adopted social media platforms were able to use these means to drive instruction, maintain a sense of culture, and connect human resources, all while maintaining social distance. Cox and McLeod (2014) stated:

Social media tools are one method by which school principals could share with stakeholders their decision-making processes and school accomplishments on a regular basis using communication channels that those citizens prefer. . .Frequent updates to social networking sites and the like allow stakeholders to access information about the school in an affordable and convenient manner. (p. 6)

The literature did reveal that principals were utilizing social media tools for external stakeholder communication as well as to connect with colleagues in other districts.

A technology leader must be willing to share with other educational leaders (ISTE, 2018). Many principals were utilizing social media as a productive means of driving culture and communicating with a variety of stakeholders from parents to community members (Sheninger, 2014). Principals could interact with larger audiences using social media than they could with newsletters or telephones (Ferriter & Ramsden, 2011). Some principals felt the more they opened themselves up to public opinion, the more they may have received feedback that was not positive, which created an element of fear toward the use of social media (*School Principals and Social Networking in Education*, 2010). Little research had been conducted regarding the reasons why secondary school principals would use their leadership positions to adopt social media

programming unless forced to do so during a once-in-a-lifetime situation such as a global pandemic; however, due to the immediate nature of social media, principals actually had more control over the promotion of a successful school environment (Ferriter & Ramsden, 2011).

Empowering Leader

Principals engage others in decision making and empower teachers and students to enrich the classroom experience in innovative ways through the use of technology (ISTE, 2018). A culture of technological learning developed when a principal is prepared to lead (Machado & Chung, 2015). Robbins and Alvy (2004) preached that it is the “principal’s moral responsibility to facilitate the leadership capacity of teachers” (p. 281). The true challenge of a successful leader was “to mobilize others to serve a purpose” by finding the leadership potential that exists in members of their staff and student body (Kouzes & Posner, 2006, p. 17). Research showed that leadership does not have to come from one individual, but Kouzes and Posner (2006) pointed out that “Exemplary leaders are more interested in others’ success than in their own” (p. 10). Schein (1992) argued, “The only thing of real importance that leaders do is to create and manage culture and that the unique talent of leaders is their ability to understand and work with culture” (p. 5). However, even though the research supported the use of social media to inform and engage stakeholders, very little literature existed to support the empowerment of students in using social media technologies to build and sustain this culture.

The environment in which all stakeholders exist creates a school community, and “a strong culture breeds people who share both values and habits of mind” (Bolman &

Deal, 2017, p. 307). From students and staff to families and residents, communication, understanding, and respect must be issued from all parties for a true community to function effectively. Students are a school's number one priority, so relationships were foremost and school leaders must work to build relationships with their students. The research supported that "Students need to be active participants in learning" (Johnson, 2015, para. 4), and Bolman and Deal (2017) explained, "Empowerment. . .also involves encouraging autonomy and participation, redesigning work, fostering teams" (p. 144). Although the research supported school administrators fostering teamwork among staff members, the idea of student-led social media teams or the empowerment of school staff to initiate student-led social media teams was not evident in educational literature.

Leaders inspire a culture of teamwork (ISTE, 2018). Participatory decision-making increased participants' commitment and developed a shared sense of direction (O'Reilly & Chatman, 1996; Bolman & Deal, 2017). Studies of participation showed it to be an empowering tool to increase both morale and productivity (Levine et al., 2001). Bolman and Deal (2017) stressed, "Effective leaders help group members communicate, work together, and do what they are there to do" (p. 177). Hackman (2002) pressed that leadership is responsible for building teams and giving team members direction that "is challenging, energizes team members and generates strong collective motivation to perform well" (p. 72).

Teamwork was the foundation of collaborative innovation, and leaders also inspired a culture of innovation (ISTE, 2018). Innovative technology use was a critical factor in 21st-century students' academic success. Schools must embrace the 21st century

learning styles and not ban the technologies students yearn to use (Jacobs, 2010). Strong leaders celebrated and empowered teachers who have innovative ideas. Flexibility was a must to create a culture accepting of youth-led innovation (Sebba et al., 2009). Sebba et al. (2009) research did not focus specifically on student-led social media teams; however, their study noted that student-led innovations “range from those that are entirely youth-led, to those initiated by adults but taken over or influenced by young people” (p. 3). Jean Piaget (1952) wrote, “The principle goal of education in the schools should be creating men and women who are capable of doing new things, not simply repeating what other generations have done.” Innovation and growth mindset are the basic tenets of collaborative learning environments in the education setting.

Empowering others to use technology innovatively was a tenet of technology leadership (ISTE, 2018), and students wanted the opportunity to take control of their learning. The literature, however, showed very little systematic analysis of student-led innovation or student-led social media teams being developed or supported in secondary schools. A study by the National Endowment for Science, Technology and the Arts (NESTA) screened over 500 resources before identifying 65 publications to present to four focus groups in order to discover whether innovation fostered critical thinking (Sebba et al., 2009). The study found that innovative experiences increased students’ ability to identify problems and find solutions: “Young people have developed new technological processes, including languages for text messages, online etiquette and new online social networks” (Sebba et al., 2009). Another study conducted 30 interviews in order to understand the limitations as well as the best practices associated with digital

social innovation (Stokes et al., 2017). The study noted that using technology for social purposes must be done under leadership that was responsible and ethical (Stokes et al., 2017). Findings of this particular study indicated that additional research needed to be done in the area of digital social innovation (Stokes et al., 2017).

One may conclude that to be an empowering technology leader, one must be able to plan for a future that includes an ongoing process of change and growth. This must include meeting the diverse needs of individuals and encompassing all stakeholders as part of the learning process.

Systems Designer

Systemic leaders build and lead teams to implement, sustain, and continually improve the infrastructure needed to meet the goals of the strategic plans and future demands (ISTE, 2018). Systems were based on human nature and organizational needs: “Organizations need people (for their energy, effort, and talent), and people need organization (for the many intrinsic and extrinsic rewards they offer)” (Bolman & Deal, 2017, p. 133). Ahmed (2016) added, “School management carries a significant part in the advancement and evolution of school; therefore, it becomes imperative to enlighten the school management regarding social media’s implementation and its significance” (p. 92). Principals were a key factor in the implementation and integration of educational technology systems (Berrett et al., 2012).

Systemic use of social media had a crucial function for educational purposes (Boyd, 2008). Rosen (2011) noted that social networking offered unique opportunities to capture the interest of young people. Bal and Bicen (2017) stated, “Social media

improves the cooperative learning skills and helps students to have communication with their teachers easier so in terms of student-centered education, it is inescapable to use social media environments” (p. 180). These media have been proven to give quiet students a voice: “The dynamic and participatory nature of many social media resources could be used to engage or re-engage bored or shy students” (Faizi et al., 2013, p. 52). Prince (2004) claimed that the core element of collaborative learning was that emphasis was on student interactions rather than on learning as a solitary activity (p. 225). High school age students were primary users of social media, and Faizi et al. (2013) stated, “Students learn better when they are actively involved. . .social media are an effective means to create channels of collaboration between students and teachers and amongst students” (p. 53). Integrated effectively into schools, social media could enhance collaborative learning skills as well as skills for the future global workplace (Walsh, 2011). Several studies, including those done by McClain (2013) and Krutka and Milton (2013), enabled us to better comprehend the potential content creation for social media holds in developing marketable skills in students; however, because no research exists on the use of student-led social media teams in schools, we are left with no guidance on how this type of social media use might contribute to the implementation, sustainment, and continual improvement of systems that support learning

Leaders must also be capable of establishing partnerships both inside and outside the school building that enhance the vision and achieve goals set forth in the strategic plan (ISTE, 2018). The idea of social media focuses more on the relationship between people than the technology (Herold, 2018). When leaders involve people in the decision-

making processes and encourage creativity in problem solving, morale is enhanced (Choi, 2007). Research supports leaders utilizing social media to interact with their stakeholders.

Cox and McLeod (2014) stated:

Given the prevalence of personal technology devices among the populace, the ease of accessibility could accelerate great interaction between and among stakeholders and school principals as they dialogue with one another in two-way communication about issues affecting the local school or school district. (p. 21)

These types of opportunities must be cultivated and developed by the leadership within the organization to properly serve the clientele, including the students of the district along with their parents and community members.

Connected Learner

Leaders remain up-to-date with new technology, and advancements in pedagogy (ISTE, 2018). Some principals used social media professionally: “Social media can be used in administrative processes, social needs, searching for information and entertainment for educational processes” (Tezci & Icen, 2017, p. 100). These methods could be very beneficial to district leadership without directly impacting students: “School leaders who employ a strong social media communication plan earn the trust of their school communities, enjoy more positive feedback from stakeholders and benefit from a lively exchange of ideas with their off-site and extended community” (Powers & Green, 2016, p. 141). The Cox and McLeod (2014) study examined twelve qualitative interviews with school principals and outlined the importance of administrators’ use of social media to create transparency and instill confidence: two principals noted that “their schools had been impacted positively due to the social media use by the principals” (p. 17).

Minimal research existed on the use of social media among school administrators. The national report, *A Survey of K-12 Educators on Social Networking and Other Content Sharing Tools* was published in 2009, when social media was still in its infancy. Follow-up studies have addressed the amount and types of social media used by administrators as well as the generational gap of administrative users (McCutcheon, 2012). A multi-site case study conducted by Lovecchio (2013) found that “school principals play an important role in the implementation of social media” (p. 121), but pushed for future research.

Technology leaders engage in regular professional development for themselves and collaborate with others in order to grow and learn (ISTE, 2018). “For teachers and school and district leaders to be as effective as possible, they continually expand their knowledge and skills to implement the best educational practices” (Mizell, 2010, para. 17). Professional learning existed to maximize collaboration and creativity. “In education, research has shown that teaching quality and school leadership are the most important factors in raising student achievement” (Mizell, 2010, para. 17). According to Daniel Pink (2009), people are driven by autonomy, purpose and mastery. Therefore, “pursuing differentiated growth options that meet each teacher’s unique professional needs” was a must (Robbins & Alvy, 2004, p. 281). Zmuda et al. (2004) stated, “Experienced educators cannot anticipate the introduction of a new innovation without simultaneously reflecting on the ones that have been abandoned” (p. 13). Research indicated leadership support as a necessity for true integration of social media resources in the classroom. Chen and Bryer (2012) suggested, “To achieve possible learning

outcomes, capacity building and training is necessary for faculty, so that they can understand the theory behind social learning” (p. 98). Pottorf Bowers (2018) outlined the challenges faced by nine principals, who were put into the role of technology leader, in her multiple case study: “Challenges occur when principals lack the skills necessary to lead the integration and implementation of technology into the instruction program of the school” (p. 47).

One may conclude from the research that leaders must engage their staff and students in order to create and implement systems that will sustain change and development within the organization. Principals must also serve as models of continuous learning and collaborate with staff members to continuously improve both knowledge and skill in technology and pedagogy.

Summary

Educational leadership has been researched extensively; however, educational leadership with the principal as the technology leader, specifically focusing on social media, was fairly new subject matter. Chapter 2 contained a review of the literature related to the role of the secondary school principal as technology leader, specifically pertaining to the use of social media. Existing research studies focused on particular social media tools used by administrators (Engebretson, 2011; Hew, 2009; Stock, 2009), while other studies delved into the experiences of principals who utilize social media tools for communication with stakeholders (Cox & McLeod, 2014). Although the research clearly indicated that principals as technology leaders may have impacted those in their buildings, scholarly research was lacking which identified the technology

leadership qualities, specifically about social media, required to fulfill the role of technology leaders outlined by the International Society for Technology in Education: equity and citizenship advocate, visionary planner, empowering leader, systems designer, and connected learner (ISTE, 2018).

One major issue uncovered in this literature review was the lack of technology leadership provided by building principals to support their teachers to engage in innovative practices using social media. Current research indicated that public education systems were slow to implement social media due in part because principals failed to provide opportunities for students to engage in its use (*School Principals and Social Networking in Education*, 2010); additionally, the literature supported that social media were tools that need to be studied because they were not being incorporated with daily instruction (Jacobs, 2010). Pottorf Bowers (2018) outlined the challenges faced by principals serving as technology leaders noting the challenges faced by schools when principals lacked the skills needed for productive technology leadership. Additional research showed that social media were allowed and encouraged by principals, yet, very few classroom teachers were actually using social media applications for instruction.

Many studies existed regarding social media use and misuse; however, the gap in our knowledge and understanding of the social media phenomenon was in reference to principals' technology leadership experiences in supporting student-led social media teams productively. Very little peer-reviewed literature existed that illustrated the experiences of school principals who supported student social media use as part of their curricular or extracurricular offerings (Lovecchio, 2013); even though student innovation

could be supported through school leadership activities (Sebba et al., 2009). Moreover, little research has been conducted regarding the reasons why school principals would use their leadership positions to adopt such programming. Some research existed on the use of social media among school administrators and follow-up studies have addressed the amount and types of social media used by administrators, but no research existed on the use of student-led social media teams in schools.

This study addresses the deficiencies in the literature by identifying high school principals' technology leadership qualities through their experiences in supporting student-led social media teams.

Conceptual Framework

This phenomenological study attempted “to build the essence of experience from participants” in order to create a concrete understanding of the central phenomenon (Creswell & Creswell, 2018, p. 64). For the purpose of this study, our knowledge and understanding of the social media phenomenon was about principals' technology leadership experiences in supporting student-led social media teams.

Maxwell (2013) advised, “A conceptual framework for your research is something that is *constructed*, not found” (p. 41). Therefore, utilizing the ISTE Standards for Education Leaders (ISTE, 2018) as the theoretical basis, the researcher was able to adapt the five standards into a conceptual framework focusing explicitly on social media rather than technology as a whole. This framework offered direction to the entire study from organizing the literature review to developing the specific research questions for each element of the ISTE Standards for Education Leaders. The framework also allowed

the extensive topic of educational leadership to be narrowed to view the principal as the technology leader, specifically addressing social media use by student-led social media teams. This framework allowed the data collection to focus on the secondary school principals' role as technology leader in five areas: equity and citizenship advocate, visionary planner, empowering leader, systems designer, and connected learner.

Chapter 2 presented a review of the literature. Chapter 3 covers the methodology including population and sampling methods, instrumentation, data collection methods, and data analysis techniques.

Chapter 3

Methodology

The purpose of this phenomenological qualitative study was to discover the technology leadership qualities in principals who support the use of student-led social media teams in their schools. The primary research question: *What technology leadership qualities do secondary school principals possess to support student-led social media teams?* is substantiated by five sub-questions with specific interview questions based on the ISTE Standards for Education Leaders (ISTE, 2018). Chapter 3 includes information on the research methods utilized in this qualitative phenomenological study including population and sampling methods, instrumentation, data collection methods, and data analysis techniques.

School principals from Nebraska were selected to take part in this research study. Participants from school districts representing a range of secondary school student populations were purposefully selected in order to increase the relevance of the findings. Principals representing secondary schools for four different enrollment sizes based on 2019-20 Data Reports from the Nebraska Department of Education (*Data Reports*) were interviewed in order to identify technology leadership qualities in principals who had student-led social media teams integrated into the curricular and/or extracurricular practices of their schools.

Research Method and Design

The research paradigm that guided the assumptions and insights for this study was the interpretive perspective. The topic of student-led social media teams was new and

evolving, so the researcher stayed focused on the collected data and maintained a working knowledge of the ontology, understanding that social reality was seen by multiple people and these multiple people interpreted events differently. The interpretive perspective allowed the researcher to be inspired by data, but focus on understanding the experiences from the viewpoints of the participants through in-depth interviews.

Phenomenology was a compatible methodology for this research paradigm because phenomenology centers around the idea of lived experiences (Yin, 2011). Van Manen (1990) suggested we “discern the silence” (p. 8) through thoughtful discourse common in educational research (p. 12). Using this approach, the researcher looked closely at what was said as well as what went unsaid. Van Manen (1990) explained, “that phenomenology aims at making explicit and seeking universal meaning” (p. 19). Van Manen (1990) also believed that phenomenological topics are not problems to be solved but inquiries into a proposed question (p. 24). This research study focused on the lived experience of secondary school principals in Nebraska warranted the use of phenomenology.

This study’s focus was on secondary school principals with questions encompassing a range of technology leadership qualities in regard to student-led social media teams in schools. Each principal brought a unique, personal background to the setting, and this type of study allowed the researcher to understand their lived experiences (Van Manen, 1990). As noted in Merriam and Tisdell (2016), “The overall purposes of qualitative research are to achieve an understanding of how people make sense out of their lives, delineate the process (rather than the outcome or product) of meaning-making,

and describe how people interpret what they experience” (p. 15). The researcher wanted to study the phenomenon of student-led social media teams from the participants’ leadership perspective.

Informed Consent

The qualitative study involved the voluntary participation of six public school principals in Nebraska who met the participation criteria. Each eligible participant received an informed consent document explaining the purpose, procedures and timeline of the study. (See Appendix D). The researcher did not begin data collection until after the receipt of the signed consent document. This document also provided participants with information on the researcher’s commitment to keeping identities, schools, and districts confidential. The researcher committed to and destroyed all Zoom recordings as soon as member checking was completed.

Confidentiality

Strategies were employed to ensure the confidentiality of the study participants. A coding system was used to identify participants during data collection, analysis, and reporting. All identifying data was removed, and confidentiality remained intact throughout the transcription process (Damianakis & Woodford, 2012). Participants were advised that they could refrain from answering any questions they believed would reveal their identity; however, all safeguards were in place to keep the names of the school districts, schools, mascots, and other identifying information confidential.

Population and Sampling Methods

The criteria for selecting participants included the following: practicing principals, who had been in their current role for at least three years at a secondary school in Nebraska that utilized the student-led social media team format. Principals with at least three years of experience were selected in order to understand the lived experience in their administrative role.

School principals who participated in this study were selected through purposeful sampling “a strategy in which particular settings, persons, or activities are selected deliberately in order to provide information that can’t be gotten as well from other choices” (Maxwell, 2013, p. 88). Purposeful selection ensured that the secondary school principals in this study presided in buildings where students had a definitive role in producing content for the building’s social media accounts by selecting schools that actively utilized the Class Intercom application for school social media use. These participants were selected “precisely because of their special experience and confidence” (Chein, 1981, p. 440). Participants were selected through purposeful sampling because according to Merriam and Tisdell (2016), “Purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned” (p. 96). The study did not exclude any principals based on gender, age, race, or ethnicity.

The search for principals fitting these qualifications began with a list of Class Intercom subscribers in the United States. This list of 200+ was narrowed to include only Nebraska school districts. Working with Class Intercom co-founder, Taylor Siebert, the

researcher narrowed the list of Class Intercom subscribers to those schools whose principals supported student-led social media teams in either curricular and/or extracurricular capacities. From this list, the researcher contacted the Nebraska Department of Education to verify the length of tenure for each principal in their respective district. Those principals with at least three years of experience remained on the list of potential candidates. This comprehensive process resulted in a list of 14 potential candidates.

Participant Recruitment

Principals in six public secondary schools in Nebraska received an email request to participate in the study. The request included the purpose of the study, a description of the research, and criteria for participation. (See Appendix C). The researcher followed up positive responses to the email with telephone calls and arranged interview dates and times. All six of the principals originally contacted agreed to participate in the study and returned signed Consent to Participate in Research forms. (See Appendix D).

Six participants, who represented the requirements sought were interviewed for this study. Four school sizes, based on student enrollment, were represented in the sample. The researcher interviewed one principal from a secondary school with a 9-12 enrollment of less than 100 students; three principals from secondary schools with a 9-12 enrollment of 101-300 students; one principal from a secondary school with a 9-12 enrollment of 301-500 students; and one principal from a secondary school with a 9-12 enrollment of more than 500 students based on the 2019-20 Data Reports from the Nebraska Department of Education (*Data Reports*) (see Table 1).

Demographic Data

The principal participants each worked in public secondary schools in Nebraska. The six participants came from six different public school districts serving students in nine through twelfth grades (see Table 1).

Table 1

Demographic Data

Participant Number	Student population 9-12	Student-led social media team	Principal's age	Total years as principal in current district
P1	235	yes	41	9
P2	140	yes	46	13
P3	404	yes	54	16
P4	230	yes	43	6
P5	72	yes	43	12
P6	704	yes	61	11

P1 was a 41-year old principal who has served in this role for nine years. The 9-12 student population was approximately 235, and they have been using Class Intercom for four years. Originally, this principal instigated the subscription to the application to alleviate the workload on the administration, who were charged with creating all social media content for the district. The next year, the district started to enlist students in creating content through a media and design class in order to shift responsibilities.

P2 was a 46-year old principal who has served in this role for thirteen years. The

9-12 student population was approximately 140, and they have been using Class Intercom for two years. Originally, a sports marketing and entertainment class was creating graphics and the course instructor was pushing out the content. This teacher along with the technology integrationist spearheaded the move to allow students to create and publish content.

P3 was a 54-year old principal who has served in this role for sixteen years. The 9-12 student population was approximately 404, and they have been using Class Intercom for four years. Originally, the principal and technology integrationist were creating content, but once they realized the magnitude of content that needed to be created, they decided to involve students.

P4 was a 43-year old principal who has served in this role for six years. The 9-12 student population was approximately 230, and they have been using Class Intercom for two years. Originally, this district was looking for a way to create and publish content more efficiently for the different social media platforms utilized by their school. After subscribing to Class Intercom, they quickly found ways for students to take the lead in content creation.

P5 was a 43-year old principal who has served in this role for twelve years. The 9-12 student population was approximately 72, and they have been using Class Intercom for five years, serving as one of the test schools prior to the release of the product. Originally, the adults in the building were concerned about information on the website and did not want to allow students to publish directly to their website and social media sites without some form of governance.

P6 was a 61-year old principal who has served in this role for 11 years. The 9-12

student population was approximately 704, and they have been using Class Intercom for five years. Originally, this school wanted to coordinate their message and consolidate their various social media accounts. They had one student wanting to post information for their student section, but needed a safety net to ensure their district was represented appropriately.

Class Intercom

Class Intercom, a social media management platform, was created specifically for educational use to provide schools with both tools and support services to allow for secure and engaging social media communications and connections. This tool provides the management of social media profiles for a single school or an entire district, wherein students and teachers are able to create, collaborate, and communicate safely on social media with real-world tools, while administrators maintain control of every post from draft to approval. Class Intercom helps secure social media data and limit third-party access to protect school, student, and staff information. The educational focus, with a scalable, centralized management platform, allows for systematic growth within a district without increased costs.

The business was born in 2016 when entrepreneurs Taylor Siebert and Ben Pankonin connected. Siebert, a Nebraska native, had previously founded Striv, a tool that allows schools to share their story by live streaming school events, specifically high school sports. Pankonin, also a Nebraska native, is the founder of Social Assurance, which offers software solutions, supported by marketing services, to help financial institutions build their brand.

In 2016, Siebert planned a social media workshop and invited Pankonin to attend. During the workshop, a practicing Nebraska high school principal shared how he had four sophomore students who wanted to create social media content; consequently, the principal gave the students a sticky note with the username and password for the school's Twitter account.

After attending the workshop and verifying no safety or security applications were in place for schools in regard to student social media use, Pankonin saw a problem he could address. He had already built an app, Social Assurance, that was being used in the banking industry. Soon after this meeting, Siebert, a native of Henderson, Nebraska, contacted two local technology integrationists, who were hosting sporadic "Twitter Takeovers" on their school accounts to try out the app. By 2017, Siebert and Pankonin had formed a partnership. As of January 2021, Class Intercom has subscribers in 200+ schools in 30+ states.

Class Intercom's competitors mainly consist of social media software designed for commercial businesses who largely focus their software licensing fees on per-user subscriptions; conversely, Class Intercom offers unlimited users for a school. This strategic difference encourages more student involvement without the school incurring additional costs. Through Class Intercom, every social media post published by a school or district is public record and archived for open records requests; this feature was suggested by school lawyers in Nebraska. Other products on the market were not in direct competition: HootSuite was built for marketers and small businesses but has increased

costs with expanded plans; Apptegy allows users to push out website content but is not a management tool; and Archive Social only provides the archiving feature.

Instrumentation

In this qualitative phenomenological study, principal participants took part in individual, semi-structured interviews utilizing a specific interview protocol (see Appendix A). The research questions allowed for exploration into the lived experiences of principals who have supported student-led social media teams in their buildings. The interview questions provided the participants with the opportunity to highlight their technology leadership qualities as they shared their experiences with student-led social media teams in their secondary schools.

All interview questions aligned to the primary research question: *What technology leadership qualities are possessed by secondary school principals in Nebraska who support student-led social media teams?* Interview questions were divided into sub-questions (see Appendix B) based on the ISTE Standards for Education Leaders (ISTE, 2018):

- Sub-Question 1. What technology leadership qualities do secondary school principals possess to be equity and citizenship advocates?
- Sub-Question 2. What technology leadership qualities do secondary school principals possess to be visionary planners?
- Sub-Question 3. What technology leadership qualities do secondary school principals possess to be empowering leaders?

Sub-Question 4. What technology leadership qualities do secondary school principals possess to be systems designers?

Sub-Question 5. What technology leadership qualities do secondary school principals possess to be connected learners?

Each sub-question contained interview questions based on the ISTE Standards (see Table 2). Commonalities and differences among the participating principals were revealed. Open-ended questions allowed the participants to share thoughts related to their unique experiences without limiting their responses.

Table 2

Research Sub-questions Aligned to Corresponding Interview Questions

Research Sub-Question	Interview Question
1. What technology leadership qualities do secondary school principals possess to be equity and citizenship advocates?	1, 7, 11, 14
2. What technology leadership qualities do secondary school principals possess to be visionary planners?	4, 5, 15
3. What technology leadership qualities do secondary school principals possess to be empowering leaders?	6, 8, 9, 12
4. What technology leadership qualities do secondary school principals possess to be system designers?	16, 17, 18
5. What technology leadership qualities do secondary school principals possess to be connected learners?	2, 3, 10, 13, 19

Data Collection Methods

Data was collected in the form of interviews from January 11, 2021 through January 20, 2021. Zoom interviews were conducted with six current principals who utilize student-led social media teams in their secondary school buildings. Video conferencing via Zoom was employed due to the current restrictions by the health department due to the COVID-19 pandemic. The recording and transcription features on Zoom were tapped to ensure accuracy. The researcher served as the transcriptionist. Each participant was interviewed using a semi-structured approach allowing for the inclusion of follow-up questions, as needed, based on interviewee's responses (Yin, 2011). The interviews were composed of open-ended questions so the participants were able to offer detailed responses. Each interview lasted approximately sixty to ninety minutes. At the beginning of each interview, *social media* was specifically defined to include the following platforms: social networks, blogs, micro-blogs, wikis, social bookmarking websites, media sharing sites, and RSS feeds. One primary research question encompassed all the interview questions for this study: *What technology leadership qualities do secondary school principals possess to support student-led social media teams?* Sub-questions, which helped to define the properties of the primary research question, were created based on the ISTE Standards for Education Leaders, resulting in nineteen specific interview questions divided among the five sub-questions (see Table 2).

Credibility and Reflexivity

In qualitative research, internal validity refers to credibility (Morse, 2015). Member checks were utilized to ensure "internal validity or credibility" (Merriam &

Tisdell, 2016, p. 246). Respective transcripts and initial findings were shared with each participant who was interviewed. Participant feedback was provided to the researcher with information on the accuracy of the data as well as the interpretation (Carlson, 2010). During this process, participants reviewed the information collected and verified accuracy (Carlson, 2010). The participants were able to recognize their experiences in the findings and appreciated the opportunity to review the information. Once the transcripts were reviewed and verified, recordings were destroyed.

The researcher also kept a reflexivity journal to record thoughts, assumptions, interactions, and rationale throughout the process. Reflexivity occurs when the researcher engages in self-evaluation (Berger, 2015). This process helped the researcher maintain objectivity and ensure trustworthiness throughout the process. The researcher's passion for the topic of student-led social media teams created some opportunities for personal influences on the research; therefore, she was keenly conscious not to add her own interpretation of experiences in interviews. Merriam & Tisdell (2016) stated, "The purpose of phenomenological reduction is to lead the researcher back to the experience of the participants and to reflect on it, in order to try to suspend judgment, so that one can stay with the lived experience of the phenomenon in order to get at its essence" (p. 227). Because the researcher was a practicing assistant principal, who had implemented a student-led social media program, she had a unique set of experiences that allowed her insights and interpretations that would have otherwise not been revealed. This unique blend of networks and experiences also helped the researcher purposefully identify participants who fit the criteria for the study.

Reflexivity added to the researcher's credibility. O'Dwyer and Bernauer (2014) noted that reflexivity is a researcher's awareness of "cognitive and emotional filters comprising their experiences, world-views, and biases that may influence their interpretation of participants' perceptions" (p. 11). The researcher had a personal connection with the Class Intercom company because she worked in a district that dedicated funds toward this social media management platform in order to support a student-led social media team. This financial investment could create a sense of privilege pertaining to ability status. Although Class Intercom is a company that is driven by subscriptions, the researcher did not stand to gain any personal notoriety or financial gain from the company through this process. The researcher's commitment to reflexivity added to the trustworthiness of this process.

Data Analysis

Throughout each interview, the researcher worked to discover technology leadership qualities in each principal; observe implications of social media use in the school setting, positives as well as negatives; and collect insights on principals' experiences in supporting student-led social media teams. During the interviews, open coding was used to make "notations next to bits of data that strike you as potentially relevant for answering your research questions" (Merriam & Tisdell, 2016, p. 204). As the interview subjects responded, the researcher made notes of key words and questions in order to ask follow-up questions and clarify information. This process also enabled the researcher to interact with the data and begin the process of identifying key words and phrases prior to transcribing the interviews.

The transcripts were then printed in hard copy, double spaced with color-coding to distinguish the interviewer's questions from the participants' responses. A three-inch right margin allowed ample space for coding notations. The transcripts were carefully organized in a binder with tabs separating each interview transcript. The tabs utilized code numbers and names in order to maintain organization and anonymity. This binder also contained a list of the open codes made during the interviews.

Once the transcripts were prepared for manual coding the researcher moved into the next steps of the study, which involved three levels of manual qualitative analysis: (a) process coding, (b) concept coding, and (c) focused coding. No qualitative data analysis software was utilized for this study. The researcher first engaged in process coding in which each interview was coded for gerunds in "simple observable activity and more general conceptual action" (Saldana, 2016, p. 111). This allowed the researcher to observe emerging processes and strategic developments as well as categories and possible themes. The process coding resulted in 72 codes including gerunds such as *celebrating student achievements*, *empowering others*, and *impacting culture*. (See Appendix E).

The researcher then delved into the interview transcripts to do another type of first-cycle coding: each interview was coded again using concept coding to move beyond the tangible and focus on the bigger picture (Saldana, 2016, p. 119). This round of coding allowed the researcher to focus on ideas rather than just key words or phrases. For example, thirteen ideas such as *culture*, *system*, and *niche* were generated during this cycle. These results were then compared to the manual process codes. Each of the 72 process codes was organized under one of the concept codes. Concept coding worked

well for this phenomenological study as it helped the researcher move past the participants as individuals and progress toward the more intangible ideas outlined in the conceptual framework.

At this point, member checks were utilized to ensure “internal validity or credibility” (Merriam & Tisdell, 2016, p. 246). Transcripts and initial findings were shared with the six participants who were interviewed. Participants were asked to review their transcripts and initial findings in order to affirm the contents recorded in the transcripts, offer feedback to clarify any inaccuracies, and validate the initial findings. Interview subjects were given one week from receipt of the transcript and initial findings to review and respond. All six interviewees responded; only one offered a correction on a number he had stated incorrectly in the initial interview.

Following these two types of first cycle coding and members checks, the researcher engaged in theming the data in order to “organize a group of repeating ideas” (Auerbach & Silverstein, 2003, p. 38). The researcher took this systematic arrangement of concepts and processed the results in the form of analytic memos in order to organize the data for further reflection. This process helped the researcher analyze the information categorically, glean new insights from the data, and make connections previously undetected. Through this process, themes such as *growth mindedness* and *school stories* began to evolve.

In the second cycle analysis phase, the focused coding method was utilized, which allowed the researcher “to assess comparability and transferability” across participants’ experiences (Saldana, 2016, p. 243). This process enabled the researcher to focus less on the specific code words and phrases from individual interviews, and focus more on the

ideas that began to emerge from the data during the theming. The list of themes was then grouped into categories based on the conceptual framework in order to increase understanding of the phenomenon (Mayring, 2014). During this reorganizing process, some codes were eliminated due to minimal use or undeveloped ideas while others were combined to form stronger themes.

Limitation

The inability to meet face-to-face due to health department guidelines during the COVID-19 pandemic was the one limitation encountered during this study. Due to the current guidelines, individual interviews were conducted via Zoom. This could have impacted the quality of the relationship between the researcher and the interviewees; however, the researcher worked diligently to make the interviewees as comfortable as possible and worked to develop a relationship of trust through the initial meeting with a specific overview of the process.

Summary

Chapter 3 covered the methodology including population and sampling methods, instrumentation, data collection methods, and data analysis techniques. An analysis of the data and a discussion of the findings are presented in Chapter 4.

Chapter 4

Results

The purpose of this qualitative phenomenological study was to identify technology leadership qualities possessed by secondary school principals in Nebraska who support student-led social media teams. Chapter 4 contains a review of the research questions and the study findings.

Review of the Research Questions

One primary research question framed this qualitative study: *What technology leadership qualities are possessed by secondary school principals in Nebraska who support student-led social media teams?* Sub-questions, which helped to define the properties of the primary research question, were divided into five sub-questions based on the ISTE Standards for Education Leaders (ISTE, 2018).

- Sub-Question 1. What technology leadership qualities do secondary school principals possess to be equity and citizenship advocates?
- Sub-Question 2. What technology leadership qualities do secondary school principals possess to be visionary planners?
- Sub-Question 3. What technology leadership qualities do secondary school principals possess to be empowering leaders?
- Sub-Question 4. What technology leadership qualities do secondary school principals possess to be systems designers?
- Sub-Question 5. What technology leadership qualities do secondary school principals possess to be connected learners?

Findings

An analysis of findings from the interviews produced themes within each of the research sub-questions and provided a framework for making focused assertions about principals as technology leaders in buildings that supported student-led social media teams. The following sections present the sub-questions and the corresponding themes emerging from the data.

Findings of Research Sub-question 1

Research sub-question 1 aimed to determine how principals use student-led social media teams to increase equity, inclusion, and digital citizenship practices: *What technology leadership qualities do secondary school principals possess to be equity and citizenship advocates?* Three themes emerged from sub-question 1. The first theme was principals create student opportunities for present and future impact by providing a niche for a wide variety of student interests. Table 3 illustrates all six principals placed value on creating these student opportunities.

All participants reported that they worked to create opportunities for their students. P1 reported that they have had some students come along who are really great at producing digital content, but “We have some that don't, but at least they've been exposed to that, and if we could give them that strong foundation with social media, they're one

Table 3*Principals Create Opportunities*

Theme 1	P1	P2	P3	P4	P5	P6
Principals create student opportunities for present and future impact by providing a niche for a wide variety of student interests.	X	X	X	X	X	X

step ahead of their peers who didn't get that.” P4 noted that some schools have community members producing content and fulfilling these roles, but their goal was to have as much student-led content creation as possible. P5 stressed, “The one thing we've always said is the kids at our school should never miss out on any opportunities than somebody at a bigger school or a wealthier school.” P3 shared that sometimes their students made mistakes, but they're doing the best they can. “It's great to have kids doing it, and sometimes they lose track of where the ball's at and all that, and people text me and say, ‘Hey, tell your cameraman. . .’ but that's the way it is. It's kids learning and that's what it's all about.”

Principals were quick to share that these opportunities extended beyond the social media realm. P5 reported:

He loves ag, he's got animals, he's got a pivot, he's got a farm, he's got a lamb, he's got a greenhouse. He's going to get it all. Right, but on top of that then he's going to go in here and have a TV studio, and then he's gonna get into social media graphic design. You let him be whatever he wants to be.

P2 pointed this out as an area of current growth as their district is working within their career areas for “more partnerships, more opportunities for kids to learn some of those hands-on skills to see if it's something they really want to do for the rest of their life.”

P1, P3, and P4 agreed that student ownership was essential. P4 suggested, “We want students to be able to take leadership roles and have ownership of what they're doing and build a legacy before they leave.” P3 declared, “This is their four years of high school and I love letting them take ownership, whether it's Class Intercom or Striv or whatever it is.” P1 agreed that principals play an important role in providing that opportunity for them to learn: “We provide opportunities here so that it may turn into something later in life.” P6 added that students needed to be good consumers of information and not just good producers of information: “They need to read with an open mind, but also to be critical, critical thinkers of how things work on social media.”

P2, P3, P5, and P6 each noted that students who were otherwise uninvolved in extracurricular activities found a niche on the social media team. P3 noted, “Our social media team is hitting a segment of our student body that is typically not involved in anything. And that's what's been awesome.” P2 expressed that they would like to do even more to provide a niche for some kids who have struggled to fit in somewhere. They started doing a secondary newscast this year and their anchors were students that weren't really in much of anything, and “just seeing kids compliment those kids and then you can see how proud they are and they just light up.” P4 stressed the importance of maintaining these opportunities for kids even though they're not moneymakers. “I think it reaps great benefits to the stakeholders, along with making a big impact on the kids in developing their skills.” P6 commented on the growth of this niche: “We started out with one student and it's evolved into being able to utilize student talents from writing to producing content. . . You try to play to their strengths.”

The second theme was principals create a culture of celebrating and recognizing student achievements. Five of the six principals interviewed specifically noted the positive impact social media had made on their culture (see Table 4). P2 shared that any time they are celebrating student successes or recognizing student achievements, it is a success. He shared:

I think back to when we had the solar eclipse a few years ago. We had older kids reading to younger kids at one of our stations for the elementary. Those are the things that you want people to see, and anytime you can share that and bring the world into your school for a little bit to see the wonderful things they're learning, those are the things that are just awesome. I feel like social media allows people who never step foot in our building to get the opportunity to experience that with us.

Table 4

Principals Impact Culture

Theme 2	P1	P2	P3	P4	P5	P6
Principals create a culture of celebrating and recognizing student achievements.	X	X	X	X	X	

P5 believed that part of his job was to promote the fact that these kids were amazing:

Let's face it, it's very easy for these kids--if you're an athlete; if you're not the All-American--there's not a lot, but at the same time, I want to build this thing in-house, like we're going to have everything that you could ever want as a kid right here.

P4 added that a lot of what the students were presenting right now gave their students and staff a chance to smile. P1 shared an incident where a student created and posted a wrestling graphic of such high quality that "it blew my mind." The content was so good

that it created buzz at the wrestling tournament it was promoting. P1 pointed out, “So now that student gets recognition for the work that she put into creating the graphic, along with the student who was featured in the graphic.” P5 shared that celebrating successes may lead to other opportunities: “I had a business person reach out and say, ‘We're going to be looking for welders, and I saw on Twitter that you have a plasma cutter. If those kids have the skills you say you're teaching them, they're already better than the people I have.’” P5 added that social media posts also have residual effects on their culture, “It can be just as impactful reading it, saying hi to a kid the next day, and saying congratulations on your big win last night.”

The third theme that emerged from Part 1 was principals care about student-created content including professional, error-free writing, graphics, and video (see Table 5). P1, P3, and P5 specifically noted the importance of professional writing quality in content being published on their social media sites. P1 noted, “It's not only digital media creation; it's also a writing exercise, too.” P5 added that he’s seen tremendous growth in the quality of content being created from his students since the journalism teacher started having students create content in class: “Now, they have to at least go investigate and find out some facts about what is going on, rather than just taking the picture and making up whatever.” P1 reported the difficulty in striking a balance between making sure content is published but is also error-free: “We don't want anybody to be afraid to post because that needs to go out there, but at the same time, you have to make sure it's right.”

Table 5*Principals Care About Student-created Content*

Theme 3	P1	P2	P3	P4	P5	P6
Principals care about student-created content including professional, error-free writing, graphics, and video.	X	X	X		X	X

Accuracy of content was also noted by P1 and P3 as being of particular importance in posts being shared on school social media accounts. P3 noted:

The beauty about Class Intercom is nothing goes out unless an adult, either a teacher or an administrator, approves it. So if students try to throw something out there under [school name] high school, we've got to approve it. If it's inappropriate, we can deal with it at that time, and I'm not so concerned about it being inappropriate. It's the spelling and things like that, or the date or the game time goes out and it's wrong, then we hear about all that.

P1 added that they've learned the hard way to teach students to ask questions such as, "Why is it important that the town location is correct when you're playing at a consolidated school district?"

Another challenge with content creation was inspiring students to create content for someone or something other than themselves. P3 expressed that social media was a huge part of students' lives, and most of them don't know life without it. P2 shared that when students created content about someone else, and they received positive feedback or a peer thanks them for a post, then, "It does make the kid that is creating that content feel good, too, even if it's not all about them." P6 suggested that bringing various talents together can produce a very good product: "We have kids that all they want to do is write

scripts, and they're good writers; so I like when one produces content as a writer and joins forces with a photographer to create quality content.”

Findings of Research Sub-question 2

Research sub-question 2 aimed to determine how principals engage others in establishing a vision, strategic plan, and ongoing evaluation cycle for transforming learning with student-led social media teams: *What technology leadership qualities do secondary school principals possess to be visionary planners?* Two themes emerged when exploring sub-question 2. The first theme was principals possess a growth mindset. This growth mindset means they possess a willingness to learn lessons by taking logical chances or by giving up control in order to improve. All six principals engaged in growth mindset practices (see Table 6). P3 and P5 bought into the idea of student-led social media teams very early. P5 shared, “We were one of the test schools that worked with Class Intercom. Before that, it was a little bit of an uncomfortable time because you didn't necessarily want to just turn kids loose without a little bit of governance.”

Table 6

Principals Possess a Growth Mindset

Theme 4	P1	P2	P3	P4	P5	P6
Principals possess a growth mindset, which means a willingness to learn lessons by taking logical chances or by giving up control in order to improve.	X	X	X	X	X	X

All six principals noted that some fear, trepidation, or lack of control was involved in this process, yet, all six ventured forward when safety controls were put in

place. P2 advised to consider more than the worst-case scenario: “You know back when social media started, we were all so scared to death to let kids be on it. I just think that talking about it has made it better and providing kids opportunities to use it in education is providing some valuable lessons for them and us, too.” P4 suggested, “Don't limit what could possibly happen because of fear or the lack of control--a lot of it will take care of itself.”

The six interviewees also shared examples of mistakes they have made in regards to the student-led social media teams. P1 quipped, “You learn from each of those failures, so we've learned a lot!” P3 warned:

Don't be naive and say never, you know, your students would never, never do this or never do that. This fall, one of our so-called school accounts was getting into the political realm, and parents were seeing that, and we had some fires to put out. Don't think you can go into anything as far as social media and think you're going to eliminate it from your building. It's not going to happen.

P5 confessed, “We took a photo on a bus when they went to take senior pictures, and you post the photo real quick, and later find out a kid is flipping off the picture in the back. That doesn't mean we're going to stop posting pictures. If you think you're going to do it right and perfect every time, you're not.” P4 added that if one is trying to fulfill their mission and present opportunities for kids, then one might have a misstep or two but the payoff is worth it.

P4 has been amazed by how quickly they have evolved into students leading their social media team and “what we put out there for our stakeholders has been wonderful.” P5 added, “You learn about new things and then you have to decide what new things are right or how many new things can you do.” P6 noted, “You have to allow yourself and

allow your students to take some chances because that's the only way you're going to grow.” P6 added that although this can be a little uncomfortable, if students are going to learn, one has to allow them to take some chances.

Each principal noted that the payoff or growth is worth the calculated risk. P5 stated, “Everyone is worried about the bad stuff. The bad stuff literally is 1%. And it will always be 1%. I hope to flood people with the 99% positive so that the 1% isn't magnified.” The six interviewees also agreed that high school is a good place to make mistakes in order to learn and grow. P5 stated, “You gotta realize that the kid that's sitting across from you begging to do this might be the next Good Morning America anchor. Do you think anybody on that show hasn't ever made a mistake?” P6 shared, “I think it was President Reagan, who used to say, ‘Trust but verify.’ We've evolved to the point where we've learned to be a lot more trusting because you have to allow the students to grow; but at the same time, we still monitor.”

The second theme was principals prepare for the future. None of the six principals interviewed believe they were prepared for the unexpected events that unfolded in Spring 2020; however, each noted specific tools they had put in place that helped them to address the needs of their students during this crisis (see Table 7).

P1, P2, P3, P4, and P6 had a technology integrationist on staff, which aided in the transition to online learning. P6 stated that their technology integrationist had the vision to take them where they needed to be, and to keep up with the development of social media. P2, P3, P5, and P6 have one-to-one programs allowing students to take devices

Table 7*Principals Prepare for the Future*

Theme 5	P1	P2	P3	P4	P5	P6
Principals prepare for the future so when unexpected events occur such as the global pandemic of 2020, the school is able to meet the needs of all students.	X	X	X	X	X	X

home on a regular basis. P1 and P4 have more than one-to-one access for their students.

P4 stated, “We are a lot closer to one-to-one than we were before. We are just really a hybrid model, but we can be one-to-one, if that's what we need.”

Although all six districts were able to distribute devices to all of their students, connectivity created different challenges across the state. P3 shared that they weren't prepared for students who only had internet access by using a parent's phone as a hotspot. In order to combat this issue, P3 added hotspots outside and in their greenhouse, so students could spread out and get Wi-Fi. P5 expressed that the past year has been a game changer: “We're much better now, even with kids that are just home sick. We're better now than we've ever been.” P1 added the pandemic has produced some silver linings: “We need to grab on to these more efficient or easier ways to learn.”

The tools these six schools implemented prior to the pandemic have reaped benefits with their stakeholders. P1 stated, “We've seen our social media viewership go way up this year, which is pandemic-related, but we've also been very cognizant to always put the Striv link in every single post, whereas we didn't do that before.” P2 added, “With limited attendance, we bought a second Striv channel for our other gym.

So, I know it's been very appreciated by grandparents and aunts and uncles. We got a lot of people tuning in.” P6 reiterated these sentiments:

I can't say enough for Striv, especially in the time of DHM's [directed health measures] and limiting of crowds. It's been extremely frustrating not to be there in person, but to have Striv be able to share as much content as we can, as far as activities and concerts and all those things. A lot of states don't have the opportunity to access these tools created in Nebraska, so they're shut out from watching their kids and grandkids perform and compete.

Even when our school leaders are not engaged in a global pandemic, all six agreed the amount of information was overwhelming and keeping up with the changes in technology was difficult. P3 shared, “There's a lot of information out there, so I try to stay current with what's going on. It changes so fast. We've had a lot of teachable moments with kids this year--especially through this whole election situation.” P5 added, “We have always said we want our kids to be prepared to be 21st century learners and 21st century adults and doers. I think that we're in better shape than we've ever been.” All six agreed that 2020 has been a struggle; however, they also agreed that the challenges they faced and survived made them stronger. P5 noted, “If something crazy happens tomorrow, knock on wood, we've been through it 50 times and that's where we're better off than schools that aren't doing this.”

Findings of Research Sub-question 3

Research question 3 aimed to determine how principals create a culture where teachers and learners are empowered to use student-led social media teams in innovative ways to enrich teaching and learning: *What technology leadership qualities do secondary school principals possess to be empowering leaders?* One major theme emerged when exploring sub-question 3. This theme is principals trust and empower others. All six

principals noted that support, acknowledgement, and professional development helped to build trust and empower others (see Table 8).

Table 8

Principals Trust and Empower Others

Theme 6	P1	P2	P3	P4	P5	P6
Principals trust and empower others through support, acknowledgement, and professional development.	X	X	X	X	X	X

Trust is an important factor in any relationship. P1 noted, “It only takes one instance where somebody screws up that ruins it for the rest of us. And so I think that's why we're pretty cognizant of it.” P4 stated that they have trust with their lead teacher and technology director, “We trust that they’re leading the kids in the right direction.” P6 suggested that trust goes both ways: “Our technology integrationist has had to develop trust with me and our assistant principals, and there's a lot more good to be gained when trust is involved.”

P1, P2, and P5 noted trust as an essential element in their empowerment of others. P2 stated that giving up control is not easy: “Class Intercom has made that a lot easier. Prior to that, I didn't have the courage to just turn the reins over to a group of kids, honestly. Now, it’s trusting your teachers and their training, and trusting that your people and your kids are going to do what they need to do.” P5 picked two or three power players that evolved into six or seven empowered staff members: “It's easier and it's more

efficient when our power players are investing in the kids who are producing content.” P1 admitted:

You know, I've been here the whole time. We built this thing. I was here when we started our Facebook page in 2010 and then brought Twitter on shortly after, so this is kind of like my baby, too, you know, like I've kind of put my baby up for adoption and all these other people are taking care of it, but I still have a huge vested interest in it. And so I want to see it continue to grow because it benefits our kids so much.

P1, P2, P3, and P5 noted that supporting, not forcing, staff is key. P5 noted the importance of listening to staff members to help them drive the program and where they want to take it. P3 added that once they realized the magnitude of the social media program, they decided to get students involved. This required bringing a few teachers and coaches on board first; however, P3 has stressed to staff that “Class Intercom should reduce the burden on the teacher.” P2 admitted, “I provide support from afar and don't touch anything.” P1 noted that this is an area of growth needed for his school: “I wish we had better participation in that we only have a handful of teachers involved.” P5 suggested, “What's weird is, the more the reluctant teachers are, the more they get on social media and see the instant news, the more they buy into it as a legitimate thing.”

P4 and P5 stressed acknowledgement for their staff members who have taken the lead with their student-led social media teams. P4 reported that his main teacher was driven by a lot of intrinsic motivation, but he tried to show appreciation through the way he scheduled that staff member, whether that's having a plan period specifically devoted to social media technology or making sure they are at certain times of the day. P4 noted that this staff members also received extended pay; however, he admitted that, “If you totaled the amount of hours that person puts in, it's so negligible, so I really try to

acknowledge that person at board meetings and other events, so that everybody knows the credit goes to him.” P5 added, “You give the teacher credit when you see those kids making better quality posts than before because that didn't come from me.”

P2, P5, and P6 commented on the evolution of professional development for social media technologies. P6 stated, “The staff PD has evolved, but it's probably not as strong as it once was, and I don't think it's a bad thing. I think it's just evolved to the point where a lot of the teachers are doing their own now, and they're finding their own PD.” P2 shared the strong support from their board and administration: “We want them to be constantly learning and trying to do their job better. I think it [social media] is a byproduct of a lot of the different professional development out there that our teachers and administrators asked to attend.” P5 added a different insight on their current professional development: “The best staff development right now is when we hire new teachers, and we talk to them about what their stance, their role, their thoughts, their plans for social media are and what that would look like in our district.”

Findings of Research Sub-question 4

Research question 4 aimed to determine how principals build teams and systems to implement, sustain, and continually improve the use of student-led social media teams to support learning: *What technology leadership qualities do secondary school principals possess to be systems designers?* Two themes emerged when exploring sub-question 4. The first theme was principals develop sustainable systems. To create systems that must be scalable and adaptable to support the mission and vision of the school (see Table 9).

Table 9*Principals Develop Sustainable Systems*

Theme 7	P1	P2	P3	P4	P5	P6
Principals develop sustainable systems that are scalable and adaptable to support the mission and vision of the school.	X	X	X	X	X	X

Although the mission and vision statements for these schools did not specifically focus on social media, each of the six subjects commented on the role student-led social media teams played in fulfilling their school’s mission. P4 stated, “We try to connect back to our mission statement, which has to do with 21st century learning and digital citizenship and all those kinds of things that we want students to be able to do.” P5 shared that, “Our job is to still continue the vision. We ask, ‘Is it best for kids?’” P3 suggested that no matter what, their technology focus was going to remain a priority: “One to one and social media, that will stay right where it's at. That's a priority. If we want to give our kids a fighting chance, they've got to be able to function online.”

P3 stated that in administration, “You live and learn to share the wealth, a little bit and make sure you're not the only person that knows how to do things, or you're going to be doing it all the time.” P2 added that by creating capacity within these systems, we are able to replace and sustain: “If one of us were gone. I feel like the others could train whoever that next person was and fill in until they're up to speed. I do feel like we have a good system.” P1 shared that different systems work for different schools: “We've tried to make this as much about the students as possible. And I know everybody does it differently to fit their needs and their system. And I think there's a lot better systems out

there than what we do; this just works for us now because of where we are. I think we have the teachers in place and even if we had to replace one of those teachers, the expectation is there; the system is there.” P4 reported that the smaller the school the higher the level of threat to the system:

I would say the structure is in place. I can equate it to a really dynamite head coach or band director that's been leading and building a program. If you lose that person, there's always a fear of, 'Okay, what happens to the program?' The program is there and we know, ultimately, it comes down to the kids' relationship with that person and how they have it set up to build the kids' strengths. So yeah, that's certainly a concern. We don't just have the next person in waiting. You know this is kind of a standalone position. All of this is one person for us.

Each principal agreed that sustainability required financial support ranging from grants to anonymous donors. No matter the means, P1 stated, “I don't think you can afford not to do it. I think if you got rid of Class Intercom, you would take away part of your story and then your public is wondering what the heck you're doing.” P4 added that they have limits in their budget and have started to explore advertising options for sustainability. P6 shared, “We've gotten to the point this year, if anybody criticizes money invested in Striv, you're going to be burned at the stake for it because it's just become so important.” P6 also noted, “The school board is taking an interest in it because they know that's where their students live.” P4 also stress Board of Education support in prioritizing these types of activities for his students: “We're going through a remodel and one of the classrooms that we're adding is a multimedia, social technology classroom, and we're specifically designing a room with all of this in mind: a transitional learning space for student access to these type of things.” P6 stated the need for funding of personnel: “I was the person who talked to our superintendent at the time and convinced him that we

needed a tech integrationist. It was becoming increasingly important at that time that we kind of take the lead in hiring someone to create and maintain the system.”

The second theme was principals must be wary of growing expectations from stakeholders. All of the six principals interviewed commented on the growing need to be wary of growing expectations from stakeholders in order to gain support, create partnerships, and meet expectations (see Table 10).

Table 10

Principals Must be Wary of Growing Expectations from Stakeholders

Theme 8	P1	P2	P3	P4	P5	P6
Principals must be wary of growing expectations from stakeholders in order to gain support, create partnerships, and meet expectations.	X	X	X	X	X	X

All six principals agreed that social media has provided an authentic audience for their student-created content. P5 stated, “That’s the challenge kids have to understand; it’s not just about your friend who’s going to see it on Twitter. It’s a school board member, and it’s the pissed off parent who thinks the school does nothing good. And then we mess up on a post, it’s [principal’s name] head.” P1 shared that when you build the content creation up to a certain level, there’s an expectation from the public: “If somebody approaches me, I always try to remind them that this is all student run; they’re the ones creating this content with these guidelines.” P2 accentuated the increased pressure when money is involved, “We want to make sure we’re doing the right thing, and if we’re going to have sponsorships and advertisements that people are getting what they’re paying for.

Our kids create those ads.” P5 noted that stakeholders are quick to criticize and hesitant to compliment, “If you don't post it, people are asking, ‘Why aren't we getting this stuff? Why didn't I know?’ It's like no one ever tells you when you’re doing a good job, but they certainly let you know when it wasn't the norm. And that means you keep doing it because it's having an impact in your community.” P4 added the increased expectation during the global pandemic of 2020: “Especially, since COVID, these things are becoming what our stakeholders expect now. In a short period of time, we went from no Striv, no HUDL camera, no Class Intercom, to now, it's the expectation. When you have something good, then people want more of it.”

Findings of Research Sub-question 5

Research sub-question 5 aimed to determine how principals model and promote continuous professional learning for themselves and others: *What technology leadership qualities do secondary school principals possess to be connected learners?* Two themes emerged when exploring sub-question 5. The first theme is principals harness the power of positive social media use. All six principals interviewed reported that they believe in the positive power of social media, they participated personally on at least one social media platform, and they model digital citizenship by what they do and do not post (see Table 11).

P4 stated that social media provides positive outcomes for developing leaders and quality communication skills. P3 noted that social media is a great tool to be able to communicate with parents, especially those split families who reside in two different

Table 11*Principals Harness the Power of Positive Social Media Use*

Theme 9	P1	P2	P3	P4	P5	P6
Principals harness the power of positive social media use including a principal's personal use of social media and modeling of digital citizenship.	X	X	X	X	X	X

communities: “We have parents with split homes, and it just gives them a great way to connect. It's a great way to promote what's positive in your building.” P4 and P6 each shared examples of harnessing the power of positive social media use. P4 noted, “In the instant access to information age and all that, well, they also have instant access to say, ‘Hey, my friend is struggling. Here's proof--look what they're saying, or look what they posted.’” P6 shared how a student used social media to promote a school and community event: ‘It's amazing how she was able to use social media, not just to get students to donate blood, but also to get adults in the community to donate blood. It was amazing how she could get the word out like that.’”

All six principals interviewed reported that they model digital citizenship personally by what they do and do not post. P2 stated, “I always think of it through the lens of ‘What will our students and parents say if they come across this?’” P1 added that they discussed social media modeling with their staff on a regular basis: “I don't want to say something that will get me in trouble with either my employer or just how it's perceived online. So I'm really, really careful about tweeting anything that's even slightly controversial.” P3 mentioned, “Everything that I put out there is me. The biggest thing is making sure it's setting a good example for students especially because I have quite a few

students that follow me.” P4 noted the growing pressure: “There’s too much that can be taken the wrong way, so you have to be cautious because it’s just, that’s the day and age we live in.” P6 agreed, “I have a fair amount of followers and so I’m very conscious about what I post and if it’s educational.”

The second theme is that principals tell their school’s story. This story aids in creating a brand and marketing their school (see Table 12).

Table 12

Principals Tell Their School’s Story

Theme 10	P1	P2	P3	P4	P5	P6
Principals tell their school's story in order to create a brand and market their school.	X	X	X		X	X

P1, P2, P3, and P5 all reported the importance of telling their own story. P1 stressed, “Somebody is going to tell your story. It’s got to be you or your kids or a combination of both. And so if you don’t tell it, somebody else is going to be telling it for you.” P3 reiterated this belief, “We want to be the ones telling our story. When new students come into the area, parents school shop, and it’s great to be able to pull up your Twitter feed or Instagram for them to see what’s going on here. It’s just a great marketing tool.” P5 shared, “Class Intercom and the student-led teams changed everything for us; it allowed us to not only hit multiple tiers of school, but also to dive into these kids who are amazing and tell their amazing stories for us, on the spot.” P1 added:

That's why you do it. You do it to get your kids recognition, not me or the assistant principal or any other administrator, because it's not about us. It's about the kids. And you want the kids to tell as much of the story as possible because it's their story. We're just here helping guide that story along.”

Summary of the Findings

Chapter 4 contained a review of the research questions, participant recruitment, participant demographic data, and findings. The findings section was organized into ten themes within the five research sub-questions. The first sub-question generated three themes: principals create student opportunities for present and future impact by providing a niche for a wide variety of student interests, principals create a culture of celebrating and recognizing student achievements, and principals care about student-created content including professional, error-free writing, graphics, and video. Two themes emerged in exploring sub-question two: principals possess a growth mindset, which means a willingness to learn lessons by taking logical chances or by giving up control in order to improve, and principals prepare for the future so when unexpected events occur, such as the global pandemic of 2020, the school is able to meet the needs of all students. One theme surfaced from sub-question three: principals trust and empower others through support, acknowledgement, and professional development. Sub-question four uncovered two themes: principals develop sustainable systems that are scalable and adaptable to support the mission and vision of the school, and principals maximize relationships to gain support, create partnerships, and meet expectations of stakeholders. The final two themes emerged from sub-question five: principals harness the power of positive social media use including a principal's personal use of social media and modeling of digital

citizenship, and principals tell their school's story in order to create a brand and market their school.

Chapter 5 presents a summary of the study, conclusions, implications, recommendations for education stakeholders, and recommendations for further study. The study concludes with references and appendices.

Chapter 5

Conclusions and Recommendations

This chapter presents a summary of the study, conclusions, implications, and recommendations for education stakeholders. The chapter concludes with recommendations for further research.

Summary of the Study

The impetus for this study was the problem of students' negative social media interactions leading to an increase of problematic student issues for secondary school principals, who have little guidance in how to address these concerns. Therefore, identifying the technology leadership qualities possessed by secondary school principals in Nebraska who are proactively dealing with these challenges was important. The purpose of this qualitative phenomenological study was to explore the lived experiences of practicing principals in secondary schools in Nebraska who support student-led social media teams in their schools and to identify qualities possessed by these principals based on the five ISTE Standards for Educational Leaders (ISTE, 2018).

The primary research question and five sub-questions focused on closing the gap in the literature regarding the limited knowledge of technology leadership qualities possessed by principals who support student-led social media teams. The primary research question was: *What technology leadership qualities are possessed by secondary school principals in Nebraska who support student-led social media teams?* The five sub-

questions defined the properties of the primary research question. The sub-questions based on the ISTE Standards for Education Leaders (ISTE, 2018) are as follows:

- Sub-Question 1. What technology leadership qualities do secondary school principals possess to be equity and citizenship advocates?
- Sub-Question 2. What technology leadership qualities do secondary school principals possess to be visionary planners?
- Sub-Question 3. What technology leadership qualities do secondary school principals possess to be empowering leaders?
- Sub-Question 4. What technology leadership qualities do secondary school principals possess to be systems designers?
- Sub-Question 5. What technology leadership qualities do secondary school principals possess to be connected learners?

The population for this study consisted of six secondary school principals in Nebraska. Data collection included individual, semi-structured Zoom interviews. Data analysis involved first-cycle coding: process coding and concept coding; theming of the data; and second-cycle focused coding. This manual coding process yielded answers to the primary research question and each of the sub-questions. Ten themes emerged from the findings. The lived experiences of these six principals in Nebraska provided valuable insight into technology leadership qualities possessed by those currently immersed in the ever-changing world of social media and technology education.

Conclusions

One primary question and five sub-questions provided the context for data collection and data analysis. The primary research question of this qualitative study was: *What technology leadership qualities are possessed by secondary school principals in Nebraska who support student-led social media teams?* Ten themes emerged from analyzing the collected data (see Table 13).

Theme 1: Principals create student opportunities for present and future impact by providing a niche for a wide variety of student interests

Principal participants credited their student-led social media teams with providing a wide range of opportunities for students who would otherwise be uninvolved in school activities. This involvement ranged from creating graphics, generating posts from live events, writing scripts, running a camera for still photos or video, or providing color commentary for live Striv broadcasts. Historically, research has suggested that participation in extracurricular activities may increase engagement and decrease the likelihood of school failure (Lamborn et al, 1992; Finn, 1993; Guest & Schneider, 2003). School size was not a factor in determining opportunities; in fact, the principal with the smallest school enrollment of all those interviewed stressed how social media tools such as Class Intercom and Striv brought equity to his students in a rural, consolidated school district by providing them opportunities to engage and connect with a much larger community. Principals who understand the importance of creating inclusive and equitable environments for their students are more likely to support student-led social media teams.

Table 13*Themes that Emerged from the Research Sub-questions*

Theme Number	Theme
Theme 1	Principals create student opportunities for present and future impact by providing a niche for a wide variety of student interests.
Theme 2	Principals create a culture of celebrating and recognizing student achievements.
Theme 3	Principals care about student-created content including professional, error-free writing, graphics, and video.
Theme 4	Principals possess a growth mindset, which means a willingness to learn lessons by taking logical chances or by giving up control in order to improve.
Theme 5	Principals prepare for the future so when unexpected events occur such as the global pandemic of 2020, the school is able to meet the needs of all students.
Theme 6	Principals trust and empower others through support, acknowledgement, and professional development.
Theme 7	Principals develop sustainable systems that are scalable and adaptable to support the mission and vision of the school.
Theme 8	Principals maximize relationships to gain support, create partnerships, and meet expectations of stakeholders.
Theme 9	Principals harness the power of positive social media use including a principal's personal use of social media and modeling of digital citizenship.
Theme 10	Principals tell their school's story in order to create a brand and market their school.

Theme 2: Principals create a culture of celebrating and recognizing student achievements

Principal participants attributed a broader range of student recognition to the content creation stemming from student-led social media teams. Not only was more content being created, but stakeholders were also able to see achievements as well as the format in which this information was being delivered. Senior Spotlights were a highlight in one district that increased parent and grandparent traffic on Facebook while Throwback Thursdays in another district engaged alumni on Twitter. Studies suggest that students achieve more in schools with positive learning environments that engage in student recognition practices (MacNeil et al., 2009). Although each principal noted that impact on school culture was difficult to measure, five of the six affirmed that their student-led social media team had made a notable and positive impact on their school and community through the sharing of information and celebration of student endeavors.

Theme 3: Principals care about student-created content including professional, error-free writing, graphics, and video

Principals credited classroom teachers and technology integrationists with progressive improvement of quality. Five of the six interviewees noted how impressed and surprised they were with the quality of talent as well as the work put forth by students to improve the consistency and quality of the content being produced. Each principal noted a significant improvement in overall quality of design and accuracy as their student-led social media teams have evolved from one or two students to courses

offered within their curriculum. Principals were also keenly aware that the risk of error increased as student-created content increased.

Theme 4: Principals possess a growth mindset, which means a willingness to learn lessons by taking logical chances or by giving up control in order to improve

Dweck (2008) noted that people with a growth mindset believe dedication and hard work are the foundation of learning. Principal participants were candid about mistakes that had been made by their students and approved by adults in their building for publishing. This willingness to fail was much more than just lip service as each principal shared how they had specific instances where they had to answer to their stakeholders, who are often quick to point out errors. Principals were willing to take chances with student-led social media teams because the risks were mitigated by the Class Intercom platform, which allowed staff members to review content before publishing.

Theme 5: Principals prepare for the future so when unexpected events occur, such as the global pandemic of 2020, the school is able to meet the needs of all students

Principal participants reported that their growth mindset attitude helped them to move forward confidently during the global pandemic of 2020 because they were experienced in taking mitigated risks in order to provide the best opportunities for their students. The six districts represented by the principals interviewed were either one-to-one with devices, or they had enough devices to quickly become one-to-one when the need arose. These principals were also able to communicate effectively with multiple stakeholder groups as their school districts were forced to make quick and dramatic

transitions to remote learning. Individual connectedness online and districts with a strategic vision for success supported these school leaders as they addressed problems openly and sought solutions, including partnerships with local internet providers to ensure connectivity for the vast majority of their students during Spring 2020.

Theme 6: Principals trust and empower others through support, acknowledgement, and professional development

Principal participants reported that trust was not easily given but was vital in order to develop capacity within their staff members to support student-led social media teams. Pautz and Sader (2017) believed successful implementation of an initiative requires collaborative relationships. These principals understood staff members could not be forced into participation; however, they recognized staff members who were early adopters in understanding the role of social media in schools and empowered these teacher leaders through professional development. Three principals noted that their organized social media professional development had actually decreased over the last two years because the vast majority of their staff members were engaging at a high level and seeking out their own forms of professional development to support more specific technology needs. Although some principals had difficulty handing over the reins of the student-led social media team, all realized “teachers and other staff members are valuable resources to principals who serve as technology leaders” (Pottorf Bowers, 2018, p. 139). Principals also recognized the financial incentive provided to staff members was negligible compared to the work required by staff members to sustain student-led social

media teams; therefore, principals privately thanking and publicly acknowledging their staff members' work was of vital importance.

Theme 7: Principals develop sustainable systems that are scalable and adaptable to support the mission and vision of the school

Mission and vision statements of these six schools did not specifically address social media; however, all referenced some form of *21st century learning* and *digital citizenship* in their mission statement, vision statement, and/or strategic plan. Reeves (2007) noted, "Schools in which leaders and teachers believe that their work is the fundamental cause of student achievement perform significantly better than schools in which leaders attribute student achievement primarily to student demographic characteristics" (p. 87). Interestingly, three of the participating principals had served under more than one superintendent in their current role leading the researcher to believe that the strong convictions of the principal were key to implementing the innovative practice of student-led social media teams. Nonetheless, supportive superintendents and Boards of Education were mentioned by each principal as instrumental in creating a sustainable system. Two of the schools were currently undergoing facility additions in which social media technologies were receiving dedicated space to scale up the student-led social media programming.

Theme 8: Principals must be wary of growing expectations from stakeholders in order to gain support, create partnerships, and meet expectations

Participating principals know that the more the school provides, the more the stakeholders expect. This became increasingly evident during the 2020-21 school year as

the Department of Health Measures (DHM) enacted on schools reduced spectator capacity and school events dramatically, in some cases 50-75 percent. Schools that had previously provided live streaming of some events with Striv and up-to-the-minute score updates through Class Intercom, were now being asked to purchase additional cameras, increase student workers, and provide live streaming options for all events from graduation to choir concerts to school assemblies. Again, more student-created content meant the opportunity for more errors and more corrective feedback from stakeholders; however, the participating principals knew the positives far outweighed the negatives including thank you notes from grandparents in other states, emails from parents in split households living in two communities, offers of financial support, and gracious posts on the school social media sites. These were just a few of the examples shared by the participating principals.

Theme 9: Principals harness the power of positive social media use including a principal's personal use of social media and modeling of digital citizenship

Building on stakeholder expectations, participating principals understood that being part of the online community was important. All six principals interviewed have an active personal account on Twitter and think about modeling digital citizenship with every tweet, retweet, or like as well as every time they refrain from tweeting, retweeting, or liking a tweet that could be misconstrued or shed a negative light on them in their school leadership role or the school district as a whole. These school leaders shared examples of being questioned by their superintendent or Board of Education members about their personal posts ranging from political views to Husker football comments.

Although modeling may be challenging, Lynch (2017) suggested, “The best example is a constant example.” The principals in this study each reported that although they still dealt with some social media discipline issues with students, the number of discipline referrals have decreased dramatically over the last two to four years. The researcher believed this could be due in part to the authentic digital citizenship lessons occurring through the student-led social media teams, but other factors also could have played a role including principal education and connectedness, improved monitoring systems for school-issued devices, and more clarity on the role of school leaders in investigating activity taking place outside of the school on personal devices before filtering into the school environment.

Each principal shared positive outcomes stemming from their student-led social media team. Although other communication systems were utilized, too, such as a school website, a daily bulletin, or a monthly school newsletter, none were nearly as effective as the messages sent through social media. Social media also allowed for the two-way communication often lacking in school-issued communications. Immediate access was also noted as a positive by one principal who shared that students who are struggling emotionally or mentally will sometimes reach out to their network of friends online. Although only one of these districts had invested in a digital citizenship curriculum, all six principals noted that students in their schools had been trained to report threats of self-harm or threats of harm to others to an adult or suicide hotline immediately. Five of the six principals interviewed referenced their school law firm, KSB Law, as their main source of student enrichment and digital citizenship training. According to the KSB Law

(2021), “Our innovative programs support schools in teaching digital citizenship. Our sessions address legal issues related to digital citizenship including cyberbullying, sexting, and internet safety.” (paras. 1-2).

Theme 10: Principals tell their school's story in order to create a brand and market their school

Since 2011, the I Love Public Schools movement has been promoting the good work being done in Nebraska public schools as well as the challenges they face on a daily basis by helping schools tell their story through video and social media. The principals participating in the study have followed their lead and invested in telling their own story rather than leaving that up to someone else. Sinanis & Sanfelippo (2015) stress the importance of approaching school branding in an intentional way. Creating this digital footprint serves the district in brand recognition, school marketing, and positive culture. With increased mobility of students as well as open enrollment opportunities, competition for students continues to increase.

Implications

This study added to the current body of educational research, and information from the study can contribute to the fields of technology leadership, educational leadership, and social media technology. This project may help move forward the way school leaders work to provide opportunities for students, connect with stakeholders, and empower staff and students to lead innovative practices in their districts. The findings of this study will be especially useful to practicing principals, teacher leaders, and principal training programs as school leaders continue to learn and grow in their ability to use

social media both personally and professionally. This will also help these educational leaders to make more transparent connections between and among stakeholder groups, promote the quality of education happening in Nebraska, and market their school/district brand as competition for students and funding increases.

The results of this study also bring to light the use of student-led social media teams in Nebraska compared to those across the United States, highlighting social media as a powerful tool in the way students connect, learn, and communicate in a global society. The findings of this study will also be significant for Nebraska policy makers and lawmakers including school superintendents, Board of Education members, and lawyers in Nebraska firms that support public schools as Nebraska touts some very unique and important viewpoints when it comes to education. The themes that emerged from the collected data revealed pertinent information about principals' lived experiences related to supporting student-led social media teams in their schools. Principals shared personal experiences, struggles, successes, and opportunities for growth. Recommendations based on the study themes follow.

Recommendations for Education Stakeholders

The ten themes generated from the study findings provided a foundation for several recommendations.

Recommendations for Superintendents and Board of Education Members

The study themes provided three recommendations for district leadership. Superintendents and board of education members should be educated and in return educate stakeholders on the importance of addressing social media use and misuse

proactively. This should be done by focusing on the positive aspects of social media such as how to tell their school's story, how to market their school, and how student-led social media teams offer specialized benefits for their students now as well as in the future. This education could alleviate fears about the negative aspects of social media and minimize ignorance about the benefits of social media. Administrators and teachers should be encouraged to use social media and taught how to model it appropriately.

School leaders should incorporate scalable technology goals into their strategic plan, which will help support innovative programming in their district. Many districts lean into the "do what's best for kids" mantra and providing the niche of student-led social media teams allows for students to engage in a multitude of skills in the industry from photography to color commentary to graphic design, each with a built-in authentic audience. School leaders should reach out to Nebraska districts who were able to adapt quickly in Spring 2020 to provide stakeholders access to instant information and live streaming video from anywhere in the world with internet access. Even though schools were participating in remote learning in Spring 2020, they were still able to have students create videos and graphics in order to stream graduation ceremonies and awards nights.

School leaders should allocate funds to ensure sustainable systems including staffing, curriculum, equipment, and ongoing professional development in order to build capacity and empower staff and students with the ability to creatively communicate with their stakeholders. This should also include an investment in the necessary technology to give students authentic experiences that prepare them as 21st century learners and leaders. Student-led social media teams should utilize innovative technologies such as

Class Intercom and Striv to support best practices in education. These two Nebraska-based companies were referenced in this study as technologies that have become part of the regular practice in the participating principals' schools, just like a basketball or speech teams.

Recommendation for Professional Development Providers (Educational Service Units in Nebraska) and Principal Preparation Programs

The study themes provided one recommendation for professional development providers (Educational Service Units in Nebraska) and principal preparation programs. High-quality professional development programs that support principals as technology leaders must be developed. Education personnel need high-quality programming based on the ISTE Standards for Education Leaders (2018) in order to educate practicing administrators, teacher leaders, and educators in principal preparation programs. This professional development should focus specifically on the areas of personal and professional social media use, digital citizenship modeling, social media marketing, and social media tools designed to support student safety, school branding, and school sustainability. These tools should include innovative technologies to support best practices in education. Secondary school principals have to balance the risk of failure and student learning opportunities without compromising student safety. This growth mindset attitude should be actively taught as part of the professional development and sought after by districts who want to address student social media use and misuse as well as provide inclusive opportunities for a wide variety of students in their care.

Recommendation for Nebraska Department of Education

The study themes provided one recommendation for the Nebraska Department of Education: the development of high-quality digital citizenship standards and accompanying high quality curricular materials. Currently, the Nebraska Department of Education lists seven recommended action steps for the “Technology in Learning” plan under the Curriculum, Instruction, and Assessment goals, action steps, and progress, which is part of Nebraska’s Every Student Succeeds Act (ESSA) plan. As of March 2021, the “Technology in Learning” goal stands at 49 percent progress; the plan is set to expire at the end of the 2020-21 school year (*Curriculum, Instruction and Assessment, 2020*). The creation of a high-quality digital citizenship standard as well as curricular materials that coincide with ISTE Standards for Students, incorporate the student-led social media team format, utilize up-to-date input from Nebraska lawyers who specialize in school law, and explore innovative technologies to support best practices in education would serve as a prime resource for Nebraska schools while still adhering to local control, which is so important to the state. This guidance would enable districts to meet the standards in the curricular format that best fits their school and community needs and culture.

Recommendation for Further Study

In the current study, the researcher explored the technology leadership qualities possessed by secondary school principals in Nebraska who support student-led social media teams. The study findings provided information on leadership qualities needed to effectively address the ongoing issue of social media use and misuse by students. More

research is necessary to close the gap in the literature regarding the qualities needed by secondary school principals in order to fulfill their role as technology leader. Although this study began to delve into learning more about principals who possess innovative technology leadership qualities, more research is needed. ISTE recognizes strong technology leadership quality standards, but learning more about these practices could provide valuable insight into empowering principals, teacher leaders, and student leaders. Additional studies on how principals who participated in technology leadership programs or professional development may give insight into what principals who do not have these qualities or skills may need.

This study looked only at Nebraska principals' experiences in schools with student-led social media teams. Nebraska schools are allowed more local control than schools in other states so this study could expand to include principals in other states and even other countries. Also, only secondary school principals who were serving in buildings actively utilizing the Class Intercom social media management platform were included in the study. Although this platform is unique for educational settings, future research could include schools using other social media management platforms.

This study focused on the lived experiences of principals. The study did not examine the perceptions of teachers nor students involved in the implementation or sustainability of student-led social media teams. Additionally, the study did not provide an analysis of stakeholders who "follow" or "like" their school's social media sites. Other stakeholders could have different perspectives on principal leadership qualities in this

area; therefore, future research should include the perspectives of other school stakeholders.

Summary

The significance of this qualitative phenomenological study was to provide insights into the technology leadership qualities possessed by secondary school principals in Nebraska who support student-led social media teams. Information from the study may contribute to the fields of technology leadership, educational leadership, and social media technology. Chapter 5 included a summary of the study, conclusions, implications, recommendations for education stakeholders, and recommendations for further study. The study concludes with references and appendices.

References

- Ahlqvist, T., Back, A., Halonen, M., Heinonen, S. (2008). Social media road maps exploring the futures triggered by social media. *VTT Tiedotteita--Valtion Teknillinen Tutkimuskeskus* (2454), 13.
- Ahmed, I., & Qazi, T. F. (2011). A look out for academic impacts of social networking sites (SNSs): a student baked perspective. *African Journal of Business Management*. Vol. 5(12), pp. 5022-5031.
- Ahmed, R. (2016). Social media integration in secondary education. *Journal of Education and Educational Development*, 3(1), 75–98.
- Anthony, A. B. & Patravani, S. (2014). The technology principal: To be or not to be? *Journal of Cases in Educational Leadership*. 17(2), 3-19.
- Auerbach, C. F., & Silverstein, L. B. (2003). *Qualitative studies in psychology. Qualitative data: An introduction to coding and analysis*. New York University Press.
- Bal, E., & Bicen, H. (2017). The purpose of students' social media use and determining their perspectives on education. *Procedia Computer Science*, 12(4), 177–181.
- Banks, M. A. (2007). The Internet, ARPANet, and consumer online. *Online*, 31(1), 32-34.
- Barth, R. (1990). *Improving school from within: Teachers, parents, and principals can make the difference*, Jossey-Bass. [https://doi.org/10.1002/1520-6807\(199301\)30:1<99::AID-PITS2310300117>3.0.CO;2-J](https://doi.org/10.1002/1520-6807(199301)30:1<99::AID-PITS2310300117>3.0.CO;2-J)

- Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research, 15*(2), 219-234.
<https://doi.org/10.1177/1468794112468457>
- Berrett, B., Murphy, J., & Sullivan, J. (2012). Administrator insights and reflections: Technology integration in schools. *The Qualitative Report, 17*(1), 200-221.
Retrieved from <http://www.nova.edu/ssss/QR/QR17-1/berrett.pdf>
- Bolman, L. G., & Deal, T. E. (2017). *Reframing Organizations: Artistry, Choice, and Leadership* (6th ed.). John Wiley & Sons. DOI:10.1002/9781119281856
- Boyd, D. M. (2008). Why youth social network sites: The role of networked publics in teenage social life. Youth, identity, and digital media. Edited by David Buckingham. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Cambridge, MA: The MIT Press, 119-142.
- Boyd, D. M., & Ellison N. B. (2008). Social network sites: Definition, history, and scholarship. *Journal of Computer Mediated Communication, 13*(1), 210-230.
<https://doi.org/10.1111/j.1083-6101.2007.00393>.
- Bradley, L., & Thouseny, S. (2011). *Second language teaching and learning with technology: Views of emergent researchers*. Dublin: Research-Publishing.net.
- Brown, B., & Jacobsen, M. (2016). Principals' technology leadership: How a conceptual framework shaped a mixed methods study. *Journal of School Leadership, 26*(5), 811-836. Retrieved from <https://rowman.com/page/JSL>

- Burkhauser, S., Gates, S., Hamilton, L., Li, J., & Pierson, A. (2013). Actions school districts can take to help principals better lead schools. Retrieved September 14, 2020, from https://www.rand.org/pubs/research_reports/RR419.html
- Carlson, J. A. (2010). Avoiding traps in member checking. *The Qualitative Report*, 15(5), 1102-1113. Retrieved from <http://tqr.nova.edu/>
- Carlyle, T., & Adams, J. C. (1907). *On heroes, hero-worship, and the heroic in history*. Boston; Houghton, Mifflin and Company: [publisher not identified].
- Chein, I. (1981). Appendix: An introduction to sampling. In L. H. Kidder (Ed.), *Selltiz, Wrightsman & Cook's research methods in social relations* (4th ed.). (pp. 418-441). Holt, Rinehart and Winston.
- Chen, B., & Bryer, T. (2012). Investigating instructional strategies for using social media in formal and informal learning. *The International Review of Research in Open and Distance Learning*, 13(1), 87–104.
- Choi, S. (2007). Democratic leadership: The lessons of exemplary models for democratic governance. *International Journal of Leadership Studies*, 2(3), 243-262.
- Collins, J. C. (2001). *Good to great: Why some companies make the leap. . .and other don't*. HarperBusiness. <https://doi.org/10.1016/j.jacr.2004.02.006>
- Connolly, M. R. (2011). 'Does social networking enhance or impede student learning? Social Networking and students learn: friends without benefits,' in Magolda, P. M. and Baxter-Magolda, M. and Carducci, R. (2011), Eds., *Contested issues in Student Affairs: Diverse Perspectives and Respectful Dialogue*, Stylus Publishing, USA.

- Couros, G. (2014, December 6). 3 ways social media can improve school culture [Web log post]. Retrieved August 7, 2020, from <https://georgecouros.ca/blog/archives/4938>
- Cox, D., & McLeod, S. (2014) Social media strategies for school principals. *NASSP Bulletin*, 98(1) 5-25.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: qualitative, quantitative, and mixed methods approaches*. SAGE Publications, Inc.
- Curriculum, Instruction and Assessment*. Curriculum, Instruction and Assessment – Nebraska Department of Education. (2020, February 5). <https://www.education.ne.gov/future-ready-nebraska/curriculum-instruction-and-assessment/#1532382607558-8f5a21bd-ac0d>.
- Damianakis, T., & Woodford, M. R. (2012). Qualitative research with small connected communities: Generating new knowledge while upholding research ethics. *Qualitative Health Research*, 22(5), 708-718. doi:10.1177/1049732311431444
- Data Reports*. Data Reports – Nebraska Department of Education. <https://www.education.ne.gov/dataservices/data-reports/>.
- Delgado, A. J., Wardlow, L., McKnight, K., & O'Malley, K. (2015). Educational technology: A review of the integration, resources, and effectiveness of technology in K-12 classrooms. *Journal of Information Technology Education: Research*, 14, 397-416. <https://doi.org/10.28945/2298>
- Digital Citizenship Curriculum. (2020). Retrieved October 01, 2020, from <https://www.common sense.org/education/digital-citizenship/curriculum>

- Dweck, C. S. (2008). *Mindset: The new psychology of success*. Ballantine Books.
- Engebretson, R. (2011, January). *Principals and blogs: In what ways does blogging support the practices of school principals?* (Doctoral dissertation, University of Minnesota, Minneapolis). Available from ProQuest Dissertations and Theses database. (Publication No. AAT 3343264).
- Faizi, R., El Afia, A., & Chiheb, R. (2013). Exploring the potential benefits of using social media in education. *International Journal of Engineering Pedagogy*, 3(4), 50–53. doi: International Journal of Engineering Pedagogy
- Ferriter, W., & Ramsden, J. (2011). *Communicating and connecting with social media*. Solution Tree Press.
- Finn, J.D. (1993). *School engagement and students at risk*. National Center for Education Statistics.
- Guest, A., & Schneider, B. (2003). Adolescents' Extracurricular Participation in Context: The Mediating Effects of Schools, Communities, and Identity. *Sociology of Education*, 76(2), 89–105. <https://doi.org/10.2307/3090271>
- Hackman, J. R. (2002). *Leading Teams: Setting the Stage for Great Performances*. Harvard Business Review.
- Herold, B. (2018). On social media, principals fight losing battle to keep up with students. *Education Week*, 37(27), 20-22.
- Hew, K. F. (2009). Use of audio podcast in K-12 and higher education: a review of research topics and methodologies. *Educational Technology Research and Development*, 57, 333-357.

- I Love Public Schools. (2021). Retrieved January 15, 2021, from <https://iloveps.org/about>
- International Society for Technology in Education. (2018). ISTE national educational technology standards (NETS). <http://www.iste.org/standards> [Accessed on May 11, 2020].
- Jacobs, H. H. (2010). *Curriculum 21: Essential education for a changing world*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Johnson, B. (2015, July 17). *What Is Your Educational Philosophy?* Edutopia. <https://www.edutopia.org/blog/what-your-educational-philosophy-ben-johnson>.
- Kaplan, A. M. and Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, Volume 53, Issue 1, January-February 2010, pp. 59-68.
- Kotok, S., & Kryst, E. L. (2017). Digital technology: A double-edged sword for a school principal in rural Pennsylvania. *Journal of Cases in Educational Leadership*, 20(4), 3-16. <https://doi.org/10.1177/1555458916685748>
- Kouzes, J., & Posner, B. (2006). *A Leader's Legacy*. San Francisco: Jossey-Bass.
- Krueger, N. (2020). How to lead a school district in a crisis. <https://www.iste.org/explore/learning-during-covid-19/how-lead-school-district-crisis> [Accessed on October 26, 2020].
- Krutka, D., & Milton, M. (2013). The enlightenment meets twitter: using social media in the social studies classroom. *Ohio Social Studies Review*, 50(22-29).
- KSB school law. (2021). Retrieved February 1, 2021, from <https://www.ksbschoollaw.com/>

- Lamborn, S.D., Brown, B.B., Mounts, N.S., & Steinberg, L. (1992). Putting school in perspective: The influence of family, peers, extracurricular participation, and part-time work on academic engagement. Chapter 6 in *Student engagement and achievement in American secondary schools*.
- Levine, D. & Appelbaum, E. & Bailey, T. & Berg, P. & Kalleberg, A. (2001). *Manufacturing advantage: Why high-performance work systems pay off*. Industrial and Labor Relations Review.
- Lovecchio, M. J. (2013, June). The principal's experience through the process of implementing social media in schools. Retrieved October 28, 2020, from <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.663.5859>
- Lynch, M. (2017, November 28). Modeling digital citizenship in the classroom. <https://www.theedadvocate.org/modeling-digital-citizenship-classroom/>.
- Machado, L. J., & Chung, C. (2015). Integrating technology: The principals' role and effect. *International education Studies*, 8(5), 43-53. <https://doi.org/10.5539/ies.v8n5p43>
- MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, 12(1), 73–84. <https://doi.org/10.1080/13603120701576241>
- Marion, R., & Gonzales, L. D. (2014). *Leadership in education: Organizational theory for the practitioner*. Waveland Press.
- Marzano, R. J., Waters, T. & McNulty, B. A. (2005). *School leadership that works*. Alexandria, VA: Association for Supervision and Curriculum Development.

- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Sage.
- Mayring, P. (2014). Qualitative content analysis: theoretical foundation, basic procedures and software solution. Klagenfurt. Retrieved from <http://nbn-resolving.de/urn:nbn:de:0168-ssoar-395173>
- McClain, C. (2013). Literature 2.0: An exploration of character using edmodo. In L. P. McCoy (Ed.), *Studies In Teaching: 2013 Research Digest. Action Research Projects Presented At The Annual Research Forum* (pp. 49-54). Wake Forest University.
- McCutcheon, N. (2012, November 30). *Use of Social Media as a School Principal*. ProQuest LLC. <https://eric.ed.gov/?q=Media%2BAND%2Bmen&id=ED558863>.
- McLeod, S. (2015). Facilitating administrators' instructional leadership through the use of a technology integration discussion protocol. *Journal of Research on Leadership in Education*, 10(3), 227-233. <https://doi.org/10.1177/1942775115623393>
- Megele, C. (2014, February 27). *eABLE: embedding social media in academic curriculum as a learning and assessment strategy to enhance students learning and e-professionalism*. Taylor & Francis Online. <https://srhe.tandfonline.com/doi/full/10.1080/14703297.2014.890951>.
- Merriam, S. (2002). Assessing and evaluating qualitative research. In S. Merriam (Ed.) *Qualitative research in practice: Examples for discussion and analysis* (pp.18-36). Jossey-Bass.

- Merriam, S., & Tisdale, E.J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). John Wiley and Sons.
- Mizell, H. (2009, November 30). *Why Professional Development Matters*. Learning Forward (NJ). <https://eric.ed.gov/?id=ED521618>.
- Morse, J. M. (2015). Critical analysis of strategies for determining rigor in qualitative inquiry. *Qualitative health research*, 25(9), 1212-1222.
doi:10.1177/1049732315588501
- Mozee, S. (2013). The impact of social media use on academic performance at one urban university; a pilot study. *Journal of Rural and Urban Research*, 2(2).
- Nebraska Department of Education. Class of 2020 - Graduation Requirements and Promotion ... (2020, April 6). Retrieved August 1, 2020, from https://cdn.education.ne.gov/wp-content/uploads/2020/04/Class-of-2020-Guidance_4.6.2020.pdf
- Nebraska Department of Education. Fine arts education. (2020, August 12). Retrieved January 14, 2020 from <https://www.education.ne.gov/finearts/>
- O'Dwyer, L. M., & Bernauer, J. A. (2014). *Quantitative research for the qualitative researcher*. Sage.
- O'Reilly, C., & Chatman, J. (1996). Culture as social control: Corporations, cults, and commitment. In B. Staw & L. Cummings (Eds.), *Research in organizational behavior* (vol. 18) (pp. 157-200). Greenwich, CT: JAI Press.

- Osborne, N. (2011). *Using social media in education, part 1: Opportunity, risk, and policy*. Retrieved from <https://www.ibm.com/developerworks/library/wa-ind-educ-social-media1/index.html>
- Pautz, S., & Sadera, W. A. (2017). Leadership practice in a one-to-one computing initiative: Principals' experiences in a technology driven, second-order change. *Computers in the Schools, 34*(1-2), 45-59. doi:10.1080/07380569.2017.1296314
- Piaget, J. (1952). *The origins of intelligence in children*. International Universities Press.
- Pink, D. H. (2009). *Drive*. Riverhead Books.
- Pottorf Bowers, B. (2018). *Technology leadership: A qualitative exploratory multiple case study identifying challenges principals experience*. (Doctoral dissertation, University of Phoenix.). Available from ProQuest Dissertations and Theses database. (Publication No. 13424449). Proquest LLC: Ann Arbor, MI.
- Powers, K., & Green, M. B. (2016). Principals' perspectives on social media in schools. *The Journal of Social Media in Society, 5*(2), 134–168.
- Prince, M. (2004). "Does active learning work? A review of the research." *Journal of Engineering Education 93*, 223-231.
- Qu, S. Q., & Dumay, J. (2011). The qualitative research interview. *Qualitative Research in Accounting and Management, 8*(3), 238-264. <https://doi.org/10.1108/11766091111162070>
- Quinn, D. M. (2002). The impact of principal leadership behaviors on instructional practice and student engagement. *Journal of Educational Administration, 40*(5), 447-467. <https://doi.org/10.1108/09578230210440294>

- Reeves, D. B. (2007). Leading to change / making strategic planning work. *Educational Leadership*, 65(4), 86–87.
- Reimagining the Role of Technology in Education: 2017 National Education Technology Plan Update*. LINCS. (2019, September 25). <https://lincs.ed.gov/professional-development/resource-collections/profile-902>.
- Richardson, J. W., Bathon, J., Flora, K. L., & Lewis, W. D. (2012). NETS*A scholarship: A review of published literature. *Journal of Research on Technology in Education*, 45(2), 131. Retrieved from <http://www.iste.org/>
- Rideout, V., Foehr, U., and Roberts, D. (2010). Generation M2: Media in the lives of 8- to 18-year-olds. <http://www.kff.org/entmedia/upload/8010.pdf> [Accessed on July 17, 2020].
- Rithika, M. and Selvaraj, S. (2013). Impact of social media on student's academic performance. *International Journal of Logistics and Supply Chain Management Perspectives*. Vol. 2, No. 4. October-December 2013. Published by Pezzottaite Journals.
- Robbins, P., & Alvy, H. (2004). *The new principal's fieldbook: Strategies for success*. ASCD.
- Rosen, L. D. (2011). Poke me: How social networks can both help and harm our kids, presentation at the 119th annual convention of the American Psychological Association, Washington, August 6, 2011. [Accessed on August 24, 2020 at: <http://www.apa.org/news/press/releases/2011/08/social-kids.aspx>.

- Ross, D. J., & Cozzens, J. A. (2016). The principalship: Essential core competencies for instructional leadership and its impact on school climate. *Journal of Education and Training Studies*, 4(9), 162-176. <https://doi.org/10.11114/jetsv4i9.1562>
- Saldaña Johnny. (2016). *The coding manual for qualitative researchers*. SAGE.
- Schein, E. H. (1992). *Organizational culture and leadership (2nd ed.)*. Jossey-Bass.
- School principals and social networking in education: Practices, policies, and realities in 2010*. (2010). Retrieved from <http://www.edweb.net/fimages/op/PrincipalsandSocialNetworkingReport.pdf>
- Sebba, J., Griffiths, V., Luckock, B., Hunt, F., Robinson, C., & Flowers, S. (2009, July). (PDF) Youth-led innovation: Enhancing the skills and ... Retrieved September 21, 2020, from https://www.researchgate.net/publication/278666609_Youth-Led_Innovation_Enhancing_the_Skills_and_Capacity_of_the_Next_Generation_of_Innovators
- Sheninger, E. (2014). *Digital leadership: Changing paradigms for changing times*. Corwin.
- Sinanis, T., & Sanfelippo, J. (2015). *The power of branding: telling your school's story*. Corwin, a Sage Company.
- Stock, M. (2009). *The school administrator's guide to blogging: A new way to connect with the community*. Rowman & Littlefield Education.

- Stokes, M., Baeck, P., & Baker, T. (2017). What next for digital social innovation? Realising the potential of people and technology to tackle social challenges. Retrieved August 18, 2020, from <https://www.nesta.org.uk/report/what-next-for-digital-social-innovation-realising-the-potential-of-people-and-technology-to-tackle-social-challenges/>
- Tezci, E., & Icen, M. (2017). High School Students' Social Media Usage Habits. *Journal of Education and Practice*, 8(27), 99–108.
- Thannimalai, R., & Raman, A. (2018). Principals' technology leadership and teachers' technology integration in the 21st century classroom. *International Journal of Civil Engineering and Technology (IJCIET)*, 9(2), 177-187. Retrieved from <http://www.iaeme.com/>
- Uerling, D., & O'Reilly, R. (1989). Local control of education. *Digital Commons*. doi:10.32873/unl.dc.oth.001
- Van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. State University of New York Press.
- Walsh, K. (2011). 7 Ways that social networking tools can yield social learning in the eClassroom. Web log post *Emerging Education Technology RSS*. Retrieved from <http://www.emergingedtech.com/2011/06/7-reasons-to-leverage-social-networking-tools-in-the-classroom/>
- Wu, A. W., Connors, C., & Jr., G. S. E. (2020). COVID-19: Peer support and crisis communication strategies to promote institutional resilience. *Annals of Internal Medicine*. <https://doi.org/10.7326/m20-1236>

Yin, R. K. (2011). *Qualitative research from start to finish*. New York, NY: Guilford Press.

Appendix A

Interview Protocol

Interview Protocol

The researcher will:

1. Welcome and thank the participant for agreeing to be interviewed.
2. Review the purpose of the study and interview:
 - To learn about the technology leadership qualities of principals in secondary schools in Nebraska that use student-led social media teams.
3. Remind the participant of the selection criteria:
 - a. Certified and practicing principal or assistant principal
 - b. In current role for at least three years
 - c. Employed at a secondary school that utilizes a student-led social media team format
4. Describe the interview process:
 - a. Informed consent process
 - b. Notes on recording
 - c. Individual Zoom interview
 - d. Wrap-up including “member check” process

Interview Process

- A. Informed Consent Process
 - a. Personal identity will not be linked to responses in ways that would make the participant identifiable.
 - b. The data collected will remain private and confidential. The researcher will be the only person with access to the data.
 - c. The participant can withdraw from the study (choose not to participate) at any time. Also, the participant can choose not to answer a question if they feel uncomfortable at any time.
 - d. There is minimal risk involved in participating in this study; however, participants are free to stop discussing distressing content.
 - e. Signing the informed consent document indicates that the participant understands the purpose of the study, their role, and how their information will be used.
 - f. The participant can choose to leave with no penalties for deciding not to participate.
 - g. The participant will retain a copy of the informed consent form.
- B. Notes on Recording
 - a. The interviewee will be reminded to close all other programs, windows, software, browser tabs, etc. during the research-related call.
 - b. The researcher will be the only person with access to the Zoom video recording and Zoom audio transcription.
 - c. Transcripts are only available to the researcher.

- d. At the end of the study, the researcher will delete the Zoom video recording and the Zoom audio transcription.
- e. The researcher will use pseudonyms during the interview and in coding the transcripts.
- f. The researcher will never share information that would allow participants to be identified.
- g. The researcher will remind participants to speak loudly and clearly for recording.
- h. The researcher will inform participants upon starting the recording device.

C. Individual Zoom Interview

- a. Introduce Script: Before we begin, I would like you to choose a name other than your own to refer to during the interview. This is to protect your identity in recordings.
- b. Terminology: Social media: Social media platforms include social networks, blogs, micro-blogs, wikis, social bookmarking websites, media sharing sites, and RSS feeds.
- c. Interview Questions. (See Appendix B).

D. Wrap-Up

- a. The researcher will thank the interviewee for their participation.
- b. The researcher will remind the interviewee that their identity will remain private and that personable identifiable information will be kept confidential.
- c. The researcher will provide their contact information to the interviewee in case they have questions or concerns.
- d. The researcher will explain the importance of “member checks” to the process and give the interviewee a time frame for when the transcript will be provided to the interviewee as well as the timeframe for when feedback will need to be returned to the researcher.
- e. The researcher will share information about when and where to find results of the completed study.

Appendix B

Interview Questions

Interview Questions

Background:

Current Role?

Age?

Number of years in current role?

Number of years in education?

Number of years using Class Intercom?

Number of years supporting student-led social media teams?

Current number of students 9-12?

Social media: Social media platforms include social networks, blogs, micro-blogs, wikis, social bookmarking websites, media sharing sites, and RSS feeds.

SELF

1. Describe your experience, both personal & professional, in using social media.
 - a. Do you think about modeling digital citizenship when you are posting to social media professionally? personally?
 - b. Does your school specifically teach digital citizenship?
 - i. If so, how?
 - ii. Do you use a specific curriculum at specified grade levels?
2. How do you remain current on emerging social media technologies for learning, innovations in pedagogy, and advancement in education?
3. Do you participate regularly in social media networks to learn with and mentor other professionals?
4. If you were asked to share your experiences with other educational leaders, what are some lessons learned, best practices, challenges, and/or impact of learning with social media you would be sure to share?
5. What would be your advice to an administrator who was thinking about implementing a student-led social media program?

STAFF

6. What types of social media are used regularly by your staff members? How?
7. Approximately what percentage of your staff members are confident in using social media to support student learning?
8. Do you empower other educators in the creation and sustainability of your student-led social media team?
 - a. If yes to #6, how do you build confidence and competency in educators to positively influence and empower students in their use of social media?
 - b. If yes to #6, how do you support these educators in using social media to advance learning that meets the diverse learning, cultural, and social-emotional needs of individual students?
9. Does your school provide professional development for staff members to explore and experiment with social media tools? If so, what are some examples?

STUDENTS

10. Tell me about the challenges faced by high school students in their use of social media.
11. Walk me through an instance when social media had a positive outcome for your students or school.
12. Describe the influence your student-led social media program has had on your school culture.
13. Describe the implications of students creating content for someone other than themselves?
14. Do all students have access to the technology and connectivity necessary to participate in social media learning opportunities?
 - a. Are you 1:1?
 - b. How do you ensure connectivity?

INFRASTRUCTURE

15. Do you have a specific mission/vision statement and/or strategic plan for your district? Does it include anything about technology or social media?
16. Do you have an infrastructure or system to support the use of social media in your building? Who leads this team(s)?
17. Do you have a budget for social media education?
 - a. If so, what does this include (marketing, devices, professional development, salary)?
 - b. Are these resources used to support the effective use of social media for learning sufficient and scalable to meet future demand?
18. Do you have any partnerships with local businesses, community members, or other stakeholders that support the strategic vision, achieve learning priorities, or improve operations?

OTHER

19. What do you wish I would have asked you about your role as the leader or technology leader in your building?

Appendix C

Initial Request to Principal to Participate in the Study

IRB Project ID #: 20803

**Technology Leadership Qualities in Secondary School Principals in Nebraska
Who Support Student-led Social Media Teams.**

Dear Principal _____,

My name is Jill Johnson, and I am the assistant principal at Seward High School as well as a doctoral student with the University of Nebraska, Lincoln. I am contacting you about my dissertation research study entitled *Technology Leadership Qualities in Secondary School Principals in Nebraska Who Support Student-led Social Media Teams*. The purpose of this qualitative phenomenological study is to identify the technology leadership qualities of secondary school principals in Nebraska, specifically those who support student-led social media teams. Additionally, the study will identify technology leadership qualities that principals believe are needed to overcome the challenges faced by current issues with negative social media use.

My research study is intended to address the gaps in the literature and provide school district leaders, school board members, and other professionals involved in technology leadership with new information on what experiences and leadership qualities contribute to successful leadership.

In order to obtain a comprehensive understanding of principals' experiences, I will be conducting semi-structured interviews via Zoom with principals who meet the study participation criteria. I would like to interview practicing principals who have at least three years of experience in their current role and support the use of student-led social media teams in their building. No compensation will be given to you to take part in this study.

If you have any questions about my research study or what I am seeing in potential principal participants, please contact me at jill.johnson@sewardschools.org or by phone at 402-613-8216. I will be contacting you again in approximately one week to see if you are available and willing to participate as part of my research study.

Sincerely,

Jill Johnson. Doctoral Candidate
University of Nebraska, Lincoln

Appendix D

Consent to Participate in Research Form

IRB Project ID #: 20803**Technology Leadership Qualities in Secondary School Principals in Nebraska Who Support Student-led Social Media Teams.**

You are invited to participate in a research study by Jill Johnson, Education Leadership doctoral student at the University of Nebraska-Lincoln. You were selected because you meet the following study criteria:

- Practicing principal or assistant principal
- In current role for at least three years
- Employed at a secondary school that utilizes a student-led social media team format

Information Consent Process

- A. Reasonable steps will be taken to protect the privacy and the confidentiality of your study data. The research records will be securely stored electronically through University approved methods and will only be seen by the research team and/or those authorized to view, access, or use the records during and after the study is complete. Those who will have access to your research records are the study personnel, the Institutional Review Board (IRB), and any other person, agency, or sponsor as required by law or contract or institutional responsibility. The information from this study may be published in scientific journals or presented at scientific meetings and may be reported individually, or as group or summarized data but your identity will be kept strictly confidential.
- B. No compensation will be given to participants to take part in this study.
- C. There are no known risks to participants from being in this research study; however, if participants experience emotional distress in the process of discussing personal experiences, they are free to stop discussing distressing content.
- D. Participation in this study will require approximately 60-90 minutes participation in a semi-structured interview via Zoom.
- E. Participants can at any time withdraw from the study (choose not to participate). Also, participants can choose not to answer any question if they feel uncomfortable at any time. Participants can choose to leave with no penalties.
- F. There is minimal risk involved in participating in this study;
- G. Participants may ask any questions concerning this research and have those questions answered before agreeing to participate in or during the study. For study related questions, please contact the investigator(s): Jill Johnson at jill.johnson@sewardschools.org or Dr. Jiangang Xia at jxia@unl.edu. For questions concerning your rights or complaints about the research contact the Institutional Review Board (IRB): Phone: 1(402)472-6965 or Email: irb@unl.edu
- H. Signing this informed consent document indicates that you, the participant, understands the purpose of the study, their role, and how their information will be used.
- I. The participants will receive a copy of the informed consent form for your records.

Notes on Recording

- A. The researchers will be the only person with access to the Zoom recordings.
- B. Transcripts are only available to the researcher.
- C. At the end of the study, the researcher will delete the Zoom recordings.
- D. The researcher will use pseudonyms during the interview and in coding the transcripts.
- E. The researcher will not share information that would allow participants to be identified. Individual level data could be shared but would be de-identified for maximum flexibility.

I have carefully read and/or have had the terms used in this consent form explained to me. By signing below I agree that I am at least 19 years of age and agree to participate in this study. Your signature below also indicates that you are giving permission to record your responses via Zoom. You will be given a copy of this consent to keep for your records.

Name of Participant (please print)

Signature of Participant

Date

Signature of Investigator

Date

Appendix E

Code Book

Code Book

Focused Code	Concept Code	Process Code
Visionary Planner	Brand (story telling)	Branding
Visionary Planner	Brand (story telling)	Communicating
Visionary Planner	Brand (story telling)	Marketing
Connected Learner	Brand (story telling)	Telling your story
Connected Learner	Challenges	Addicting behavior
Connected Learner	Challenges	Challenging behaviors of students
Equity and Citizenship Advocate	Challenges	Disciplining
Equity and Citizenship Advocate	Challenges	Fearing missing out (FOMO)
Visionary Planner	Challenges (growth mindset)	Erring
Empowering Leaders	Culture	Acknowledging or encouraging others
Connected Learner	Culture	Adopting early or buying in
Empowering Leaders	Culture	Being blessed or fortunate
Empowering Leaders	Culture	Impacting culture
Visionary Planner	Empowerment	Convicting
Empowering Leaders	Empowerment	Developing student leaders
Empowering Leaders	Empowerment	Empowering others
Systems Designer	Empowerment	Hiring technology integrationist
Empowering Leaders	Empowerment	Motivating practices for student-led programs
Empowering Leaders	Empowerment	Supporting teachers
Empowering Leaders	Empowerment	Trusting
Visionary Planner	Instruction	Adopting courses or curriculum
Empowering Leaders	Instruction	Instructing using social media
Connected Learner	Instruction	Learning actively
Equity and Citizenship Advocate	Instruction	Learning for the 21st century
Connected Learner	Instruction	Learning lessons (principals)
Systems Designer	Instruction	Learning processes (students0

Connected Learner	Instruction	Teaching digital citizenship
Equity and Citizenship Advocate	Instruction	Using curriculum (digital citizenship)
Connected Learner	Modeling	Modeling (negative) by Adults
Connected Learner	Modeling	Modeling (positive) by Adults
Connected Learner	Modeling	Using social media personally
Connected Learner	Modeling	Using social media positively
Empowering Leaders	Positives (growth mindset)	Controlling or lack of
Visionary Planner	Positives (growth mindset)	Finding silver linings during pandemic
Connected Learner	Positives (growth mindset)	Receiving feedback
Connected Learner	Positives (growth mindset)	Risking failure
Visionary Planner	Positives (growth mindset)	Willing to take chances or Failing
Connected Learner	Quality content	Creating a digital footprint
Equity and Citizenship Advocate	Quality content	Creating content (students)
Equity and Citizenship Advocate	Quality content	Creating quality content
Equity and Citizenship Advocate	Quality content	Following ELA standards
Equity and Citizenship Advocate	Quality content	Minimizing errors
Equity and Citizenship Advocate	Quality content	Writing professionally
Connected Learner	Relationships	Advising
Connected Learner	Relationships	Being aware
Empowering Leaders	Relationships	Developing relationships
Equity and Citizenship Advocate	Relationships	Serving
Systems Designer	Relationships	Supporting superintendents
Connected Learner	Relationships	Using school lawyers

Systems Designer	Relationships (story telling)	Connecting
Visionary Planner	Stakeholders	Expecting more (stakeholders)
Visionary Planner	Stakeholders	Partnering with stakeholders
Equity and Citizenship Advocate	Stakeholders (story telling)	Influencing stakeholders
Empowering Leaders	Students	Creating ownership (student)
Empowering Leaders	Students	Impacting future opportunities
Systems Designer	Students	Prioritizing
Empowering Leaders	Students	Providing a niche for students
Visionary Planner	Students	Providing authentic audience
Equity and Citizenship Advocate	Students (story telling)	Celebrating student achievements
Empowering Leaders	Students (story telling)	Recognizing student achievements
Visionary Planner	Systems	Budgeting
Systems Designer	Systems	Changing or adapting
Empowering Leaders	Systems	Creating sustainability or legacy
Systems Designer	Systems	Creating systems or hierarchy
Empowering Leaders	Systems	Growing or scaling up
Connected Learner	Systems	Living in Nebraska
Visionary Planner	Systems	Planning strategies (mission or vision)
Systems Designer	Tool	Distributing devices (1:1 programming)
Connected Learner	Tool	Innovating resources or applications
Connected Learner	Tool	Striving
Connected Learner	Tool	Tweeting
Connected Learner	Tool	Using HUDL

Appendix F

IRB Approval Email

Tue, Jan 5,
11:25 AM

IRB NUgrant System <nugrant-irb@unl.edu>

to jxia, jjohnson198

January 5, 2021

Jill Johnson
Department of Educational Administration

Jiangang Xia
Department of Educational Administration
TEAC 125 UNL NE 685880360

IRB Number: 20210120803EX
Project ID: 20803
Project Title: TECHNOLOGY LEADERSHIP QUALITIES IN SECONDARY SCHOOL PRINCIPALS IN NEBRASKA WHO SUPPORT STUDENT-LED SOCIAL MEDIA TEAMS

Dear Jill:

This letter is to officially notify you of the certification of exemption of your project for the Protection of Human Subjects. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects at 45 CFR 46 2018 Requirements and has been classified as exempt. Exempt categories are listed within HRPP Policy #4.001: Exempt Research available at: <http://research.unl.edu/researchcompliance/policies-procedures/>.

- o Date of Final Exemption: 1/5/2021
- o Certification of Exemption Valid-Until: 1/5/2026
- o Review conducted using exempt category 2b at 45 CFR 46.104
- o Funding (Grant congruency, OSP Project/Form ID and Funding Sponsor Award Number, if applicable): N/A

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

- * Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- * Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
- * Any protocol violation or protocol deviation
- * An incarceration of a research participant in a protocol that was not approved to include prisoners
- * Any knowledge of adverse audits or enforcement actions required by Sponsors
- * Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- * Any breach in confidentiality or compromise in data privacy related to the subject or others; or
- * Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes that may affect the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board.

If you have any questions, please contact the IRB office at 402-472-6965.

Sincerely,

Jenn Klein
for the IRB

